SEP 13 1926

PAPER TRADE JOURNAL

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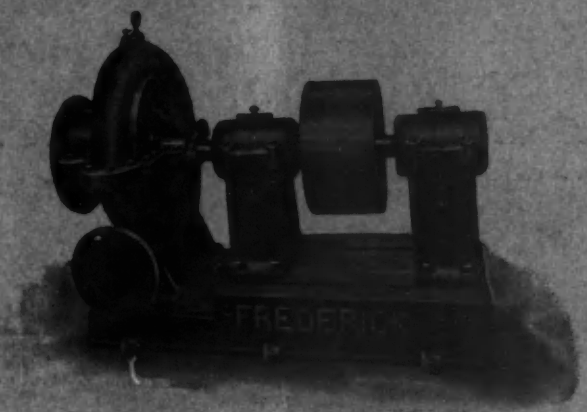
FREDERICK PUMPS



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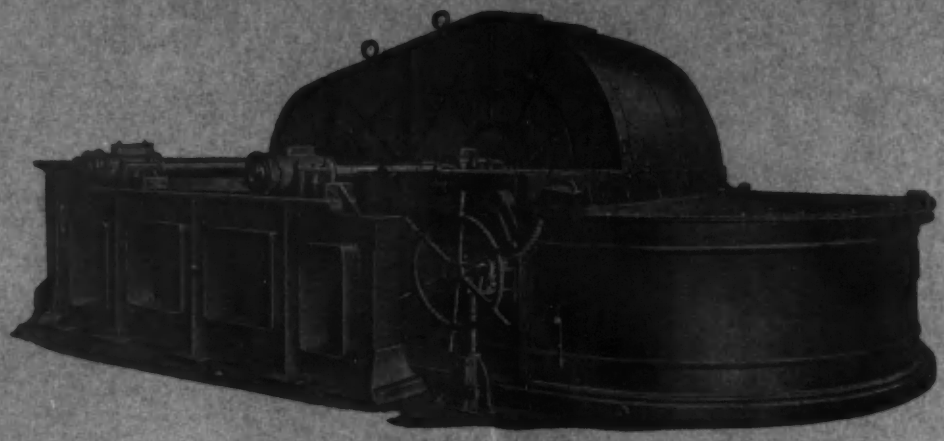

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ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-FIFTH YEAR

Published Every Thursday by the

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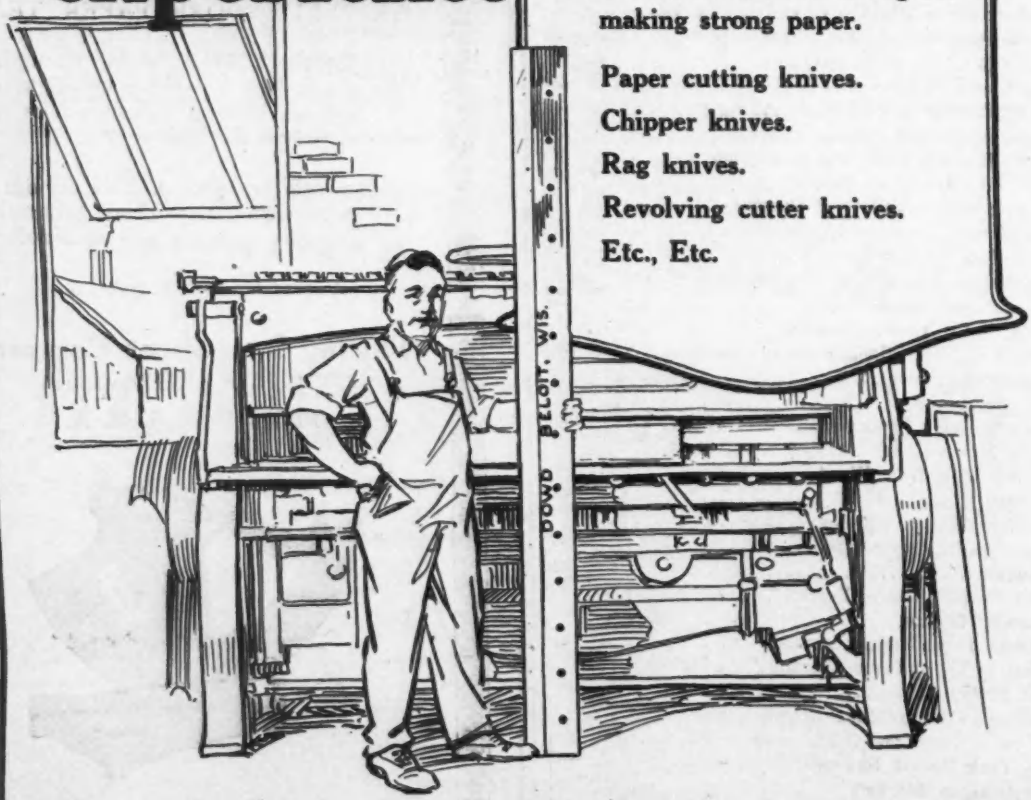

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With Which Is Combined

Vol. LXXXIII, No. 11 — Thursday, September 9, 1926

The Magazine of the Paper Industry

Paper Production Slightly Decreases in July

According To The American Paper and Pulp Association And Cooperating Organizations the Figures for July Were 5 Per Cent Lower Than in June, All Grades But One Sharing in the Decrease—All Grades of Pulp With One Exception Showed a Decrease of 12 Per Cent as Compared With June

July Pulp and Paper Production Statistics

The July production of paper in the United States as reported by identical mills to the American Paper and Pulp Association and cooperating organizations, showed a decrease of 5 per cent as compared with June's production following a 3 per cent increase in June over May, according to the Association's Monthly Statistical Summary of Pulp and Paper Industry. All grades showed a decrease in production as compared with June, with one exception.

The Summary is prepared by the American Paper and Pulp Association as the central organization of the paper industry, in cooperation with the Binders Board Manufacturers Association, Converting Paper Mills Association, Cover Paper Association, Newsprint Service Bureau, Wrapping Paper Manufactures Service Bureau, Writing Paper Manufacturers Association and Paperboard Industries Association.

The figures for July for same mills as reported in June are:

Grade	Number of Mills	Production Net Tons	Shipments Net Tons	Stocks on Hand End of Month, Net Tons
News Print	71	140,516	142,690	16,524
Book	62	82,907	85,157	45,651
Paperboard	113	180,617	182,003	52,029
Wrapping	77	47,288	49,987	38,647
Bag	24	12,210	12,800	9,756
Fine	87	29,219	30,065	41,698
Tissue	47	14,151	14,846	17,380
Hanging	9	4,751	4,765	4,700
Felts	10	7,140	7,278	2,006
Other Grades	66	21,861	21,398	18,169
Total—All Grades		540,660	550,989	246,560

During the same period, domestic wood pulp production decreased 12 per cent, this decrease being distributed over all grades, with one exception. The July totals (mills identical with those reporting in June) as reported by the American Paper and Pulp Association, are as follows:

Grade	Number of Mills	Production Net Tons	Used Net Tons	Shipments Net Tons	Stocks on Hand End of Month, Net Tons
Ground Wood Pulp	95	84,628	90,086	5,467	146,216
Sulphite News Grade	38	43,797	37,830	5,307	12,143
Sulphite Bleached	22	22,222	19,481	2,694	3,190
Sulphite Easy Bleached	6	3,038	2,698	488	846
Sulphite Mitscherlich	6	6,671	5,469	1,038	818
Sulphate Pulp	9	14,626	12,704	1,537	1,705
Soda Pulp	10	17,218	12,975	3,619	3,627
Other than Wood Pulp	2	41	30	....	29
Total—All Grades		192,271	181,273	20,150	168,574

May Build Paper Mill at Prince George

[FROM OUR REGULAR CORRESPONDENT]

VANCOUVER, B. C., August 31, 1926.—Central British Columbia will have a new and large scale pulp and paper operation at Prince George on the Grand Trunk line of the Canadian National Railway, it is learned from the holders of extensive timber tracts who are engaged in financial arrangements.

Five years ago at the inception of the plan it was termed a "ten million dollar enterprise."

Today H. G. Gundy of the Toronto financial corporation of Wood, Gundy & Co., investment bankers, admits the possibility that the reorganized programme may call for the raising of $50,000,000.

Frank P. Jones of Montreal, head of the Canada Cement Company, and Angus McLean of Bathurst, New Brunswick, chief executive of the Bathurst Paper Company, with Mr. Gundy have recently made an extensive examination of the timber limits, site and power possibilities and, it is stated, the outcome is a favorable attitude upon the part of Mr. Gundy to proceed further with the financing of the big undertaking.

The firm of Wood, Gundy & Co., it is assumed, will underwrite an issue of bonds or preference shares or both to get the project under way.

C. R. Lindsay, a hydro-electric engineer of Montreal, is concluding a survey of water power prospects.

Jones, McLean and associates hold immense tracts of virgin timber in the territory adjacent to Prince George. That the holdings are not sufficient, however, to meet the requirements of the plant on the scale projected is indicated by the statement of Mr Gundy at a board of trade luncheon in Prince George at which he said that it was proposed to procure from the Government of British Columbia a "supply of timber sufficient to supply the mill in perpetuity." A number of concessions would be required from the Government, it was stated.

Prince George, originally Fort George, established as a trading post for the Hudson's Bay Company, is making rapid strides as an industrial centre. J. D. McArthur of Winnipeg recently started work on establishment there of one of the largest saw mills in British Columbia.

It is located at the confluence of the Fraser and Nechako rivers, 500 miles by rail from the sea port of Prince Rupert and an equal distance from Vancouver. Rail communication with Vancouver, however, lacks about 40 miles of track for completion and there is no immediate prospect of construction. The line, known as the Pacific & Great Eastern, is owned by the Provincial Government and was built by private capital before the war partly with a view of tapping the pulpwood forest of central British Columbia.

The new mill, for a time at least, would find outlet for its product to world markets through Prince Rupert.

International Buys More Timber Limits

Company Secures Woodlands on Restigouche River, Above Campbelltown, N. B., Aggregating 490 Square Miles, to Form Reserve for New News Print Mill—International Paper Documents Filed at Hull, Que., Involving $2,500,000—Anglo-Canadian Plans Completed

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., September 6, 1926.—Acting on behalf of the International Paper Company, a notorial firm has deposited with the registrar at Hull, Que., documents involving the huge sum of $250,000,000—the most important documents ever recorded in the office. The first document is a lease for the unpatented lands sought by the Hull Electric Company in its development of the Paugan Falls power project. This lease secures to the company lands which will be flooded when the International Paper Company, which has bought the falls, goes ahead with the development.

The second document is a deed of sale, for "one dollar and other value," from the Hull Electric Company to the Gatineau Power Company of the Paugan Falls project.

The third document is a deed of sale by the Canadian International Paper Company to the Gatineau Power Company of its properties at Farmer's Rapids and Chelsea, also for "one dollar and other value."

The final document is a trust deed, mortgage and pledge issued by the Canadian International Paper Company to the Royal Trust Company, of Montreal, whereby it pledges its properties to the value of $250,000,000 as security for its first issue of gold bonds. These bonds were for $25,000,000 and were recently sold in New York City. The four documents cover 675 pages, and are so lengthy that it will take the entire staff of the Registrar, working at night as well as during the day, upwards of a month to inscribe their contents in the register.

Another big deal by the Canadian International Paper Company has just been announced. The company has purchased timber limits aggregating 490 square miles from the Chaleurs Bay Mills Company. These woodlands are on the Restigouche River above Campbelltown, N. B., and will form a reserve for the news print mill which the company intends to build in the vicinity.

Anglo-Canadian Pulp & Paper Co.

Plans for the new pulp and paper mills of the Anglo-Canadian Pulp and Paper Company at Limoilou, near Quebec, are completed, but Frank Clarke, head of the company, announces that it will be six weeks before tenders are called for. Mr. Clark voices his satisfaction with the progress which is being made with the new wharf under construction on the St. Charles River. Already four of the nine cribs which will form the foundation of the wharf have been placed in the water.

Enormous Water Power Projects

The Dominion Water Power and Reclamation Service of the Department of the Interior at Ottawa has just completed studies which show that the estimated power required by the provinces of Ontario and Quebec will increase from 3,532,000 installed hydraulic turbine horse-power in 1925 to about 8,150,000 in 1945 and that the new capital required for development, transmission and distribution of this water power will be not less than $1,369,000,000 during the twenty years or an average of over $68,000,000 per year.

That this estimate is conservative may be judged from the following facts. The average rate of increase in installed horse-power corresponding to the above figures is less than 5 per cent per annum; the actual increase from 1923 to 1925 has been at the rate of over 18 per cent per annum, and with the great developments on the Saguenay and Gatineau rivers, and smaller developments at other points, now under construction, and the developments that may be expected on the St. Lawrence, Ottawa and other rivers in the next few years, a similar rate may be expected for some years to come.

On January 1, 1926, the total turbine installation in Canada was 4,290,428 horse-power, and of this total 3,532,228 horse-power was in stations and plants in Ontario and Quebec.

Rushing Work To Mill Addition at Mechanicville

[FROM OUR REGULAR CORRESPONDENT]

MECHANICSVILLE, N. Y., September 7, 1926.—Rapid progress is being made with the new addition to the plant in the West Virginia Pulp and Paper Company on which work was started early in the summer. The foundation work was completed early in August and men in the employ of the Bethlehem Steel Company are now engaged in erecting the steel framework. The new building is of heavy mill construction and will conform in architecture to the other buildings comprising the extensive plant of the West Virginia Pulp and Paper Company here.

Contractors in charge of the work have promised officials of the company that the new addition will be completed well within the contract date. To accomplish this work is being speeded up and present expectations are that the addition will be completed and in use before the cold weather sets in. The new building will be used as a shipping department and when it is completed the present shipping room will be altered and used for other purposes. The building is most conveniently located and the lay-out will be arranged to give the utmost facility in the handling of incoming and outgoing shipments.

To Sell Cushnoc and Kennebec Companies

Under order of the United States District Court, the Trustees of the bankrupt estates of Cushnoc Paper Company and Kennebec Paper Company will sell at public auction, at the office of Cushnoc Paper Company at Augusta, Maine, ten o'clock a. m., on Friday, September 17, 1926, all the assets of both companies. These assets include the Cushnoc Paper Company mill, the Kennebec Paper Company mill, all accounts receivable, stock on hand and all in process, leasehold rights, inventories, supplies and all interests in contracts for the purchase of raw materials and machinery.

All bidders will be required to qualify by depositing as earnest money with the Trustees before 9 a. m. on the day of sale a certified check for $10,000 drawn on some responsible bank or trust company, to be returned after the sale to the unsuccessful bidders. The successful bidder will be allowed ten days from date of sale to complete payment of purchase price.

The Trustees reserve the right to refuse any and all bids and any sale made is also subject to confirmation by the United States District Court for the District of Maine.

Pulp Exports From Sweden Decrease

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 1, 1926.—Exports of pulp from Sweden during the month of July amounted to 115,557 metric tons, according to a cable just received from Commercial Attache Klath, Stockholm. This is a considerable decrease under shipments during the preceding month, which totaled 143,105 tons, and an even greater reduction in comparison with May, when shipments totaled 152,084 tons. Exports during July comprised 65,146 tons of sulphite pulp, 35,379 tons of soda pulp, and 15,032 tons of mechanical groundwood. In addition to wood pulp, 28,233 tons of paper were exported during thes ame month, 10,759 tons of which consisted of news print.

Fox River Paper Output Reaches Highest Peak

Current Production Greater Than at Any Time Since Slump Following World War — Mills Manufacturing High Grade Writing, Bond and Ledger Papers Particularly Busy—Sales Reports From the Field Very Encouraging and General Outlook Bright

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., September 4, 1926.—Paper production in mills of the Fox River Valley has reached the highest peak point since the slump just after the World war, according to a statement issued by J. M. Gamsky, sales manager of the Fox River Paper Company, Appleton, Wis. This happy situation prevails especially in mills making high grade writing, bond and ledger papers.

Output has not fallen below normal in any of the mills, in the opinion of leading manufacturers, thus enabling them to run without shutdowns except for repairs. The continued demand for high grade papers is partly responsible for this condition. Sales reports from the field are very favorable at this time and production is expected to continue at this pace.

Paper Mill Waste Situation

Paper mills are not the only industries accused of killing fish because of river pollution. It has been found by C. M. Baker, sanitary engineer of the state of Wisconsin, that milk industries have something to do with the condition of streams in this state. He says the milk industry "constitutes a serious problem." A plan is under way to inaugurate an active program in regard to disposal of wastes in this industry. It is found also that canning factories have a problem in disposing of waste and experiments are being conducted in an endeavor to stop stream pollution from this source.

Mr. Baker has encouraging things to say with respect to the paper mill waste situation. Mills are cooperating, he declares, in the efforts to find a remedy for stream pollution by using their laboratories and personnel. Samples of water are being collected from the Fox, Wisconsin and Flambeau rivers and tests being made for dissolved oxygen. A comprehensive survey thus will be obtained to determine the actual effect of pollution at critical points.

"A survey of the paper mills indicates," says Mr. Baker, "that this industry has spent approximately $175,000 during the last year in installation of improved save-all equipment to recover fiber waste formerly discharged into the streams and causing objectionable pollution. One mill is conducting elaborate experiments in the recovery of lime sludge from the sulphate process. On the whole, the cooperation of the paper industry has been excellent and it is believed that definite and elaborate improvements will be made within the next few years.

New Boiler Equipment Installed

New boiler equipment is being installed at Menominee, Mich., in the mill of The Marinette and Menominee Paper Company, subsidiary of the Continental Paper and Bag Mills Corporation, of New York. Work has been started on a new boiler house and it will be completed in about ninety days. Very up-to-date boilers will be installed as soon as the construction is completed. The building is being made large enough to provide for other necessary enlargements planned by the company.

Satisfactory progress also has been made with the new screen room at the company's Park Mills plant. It will be a matter of about four weeks before this work is finished. Improvement in the products of the mill is expected to result. Changes also are being made in the acid system in both the Park and Menominee mills. The work is being rushed so as to have it done before cold weather arrives.

G. W. Mead Buys Nash Home

George W. Mead, president of the Consolidated Water Power and Paper Company, has purchased the palatial home at Wisconsin Rapids, Wis., of the late T. E. Nash, railroad builder and pioneer in paper mill development in Wisconsin. The purchase was made, it is understood, for Mr. Mead's son Stanton, who was married several days ago to Miss Dorothy Williams of Milwaukee, Wis. The home was built by Mr. Nash in 1901 and has always been one of the show places of Wisconsin Rapids. It was the family homestead until this summer, when Mrs. T. E. Nash, the widow, died. The property was bought from the heirs but the consideration was not made public.

High Honor for F. J. Sensenbrenner

High honor has come to F. J. Sensenbrenner, of Neenah, Wis., vice-president of the Kimberly-Clark Company. He has been notified of his designation by Pope Pius as a Knight of St. Gregory, the highest honor which a Roman Catholic layman can attain. This is in recognition of his assistance to Catholic institutions and organizations, and his long time service in their interests. Formal vestiture of the rank will be made by the Rt. Rev. Bishop Paul Peter Rhode, of Green Bay, Wis., in the near future.

F. J. Schneller Distinguishes Himself

Frank J. Schneller, vice president of the Gilbert Paper Company, Menasha, Wis., distinguished himself at the convention of Wisconsin department of the American Legion at LaCrosse, Wis., August 26 to 28. He was a member of the Neenah, Wis., rifle and pistol team which took first place in the state and will go to the national American Legion convention at Philadelphia in October, to represent his state in the shooting competition there. Mr. Schellner is the donor of a large silver trophy cup which goes each year to the post winning the American Legion state contest. The paper mill official also was one of two men slated for election as Wisconsin Legion commander. He lost out to the other candidate, however, although his popularity was demonstrated by the large vote he received.

Maynard LaBrot in Automobile Accident

Maynard LaBrot, nineteen year old son of Fred C. LaBrot, manager of the Stevens Point, Wis. mill of the Consolidated Water Power and Paper Company, was critically hurt in an automobile accident several days ago. The youth was riding with Dr. E. H. Rogers, of Stevens Point, and suffered concussion of the brain and internal injuries when the car plunged off a bridge at River Falls, Wis. The doctor and his son were killed.

Rosebush Addresses Credit Men

Judson, G. Rosebush, of Appleton, Wis. president of the Northern Paper Mills, Green Bay, Wis., was one of the principal speakers at the twelfth annual convention of credit men of Wisconsin and Michigan at Escanaba, Mich., Saturday, Sept. 4, Mr. Rosebush represented the Green Bay section at the meeting.

DePere Paper Mfg. Co. to Increase Capital

DePere Pulp and Paper Company, of DePere, Wis., has changed its corporate name to DePere Paper Manufacturing Company, according to announcement of Herman Miller, president and general manager. The company soon will increase its capital stock from $40,000 to $80,000. An old flour mill was bought by this concern when it started operations less than a year ago. The equipment installed consists of a paper machine 72 inches wide, with a capacity of fifteen tons a day. Wrapping paper is being produced at the present time. Other officers of the company are Morris Miller, treasurer, and E. M. Johnson, secretary.

Competition Disturbs Los Angeles Paper Trade

Local Business Men Determined to Protect Own Industry and Own Interests — Paper Box Trade Demoralized by Unsatisfactory Position of Industry—Conditions Fairly Satisfactory for Jobbing Fraternity—Collections Said To Be Moderately Good

[FROM OUR REGULAR CORRESPONDENT]

LOS ANGELES, Cal., September 1, 1926.—One of these days the members of the paper trade industry in Los Angeles will rise up in righteous wrath and smite some of the eastern paper mills hip and thigh—metaphorically speaking. In other words Los Angeles is stepping out of the swaddling clothes of a small town and is putting on instead the habiliments of a young and vigorous industrial giant. She is the fifth largest city in the United States now and many of her industries are beginning to think it is about time she divorced herself from either dependence upon the east or interference from the east—and no industry in Los Angeles has suffered more from the latter than has the paper industry.

True, Southern California still is a great playground. It still has its climate, oodles of it; it still has its beaches, long stretches of 'em; it still has its mountains, towering pyramids of 'em, but— and here is the new spirit which is manifesting itself in the minds of Los Angeles business men—it is able now to stand alone and it will resent further interference from the east.

For the future, as far as the commercial interests of Los Angeles are concerned, less stress will be placed upon climate and beaches and mountains—less playground stuff, in other words, but more business talk. Competition Los Angeles does not fear, rather she will welcome it, for she thinks legitimate competition makes for a healthy condition of trade, but she will resent with all her might that unethical type of competition which her reputation as a playground has invited.

Competition in Paper Trade

In these despatches in the past something has been said about climate having been responsible for much of the competition from which the paper industry out here has suffered. Men come out here to spend their vacations because of the manifold attractions presented by Southern California, and, after they have played a while, they begin to think that maybe they can make a little money to help pay their expenses and so they call upon the local buyers of paper stock and book orders at prices far below what they would think of booking the same orders for in the east. This isn't theory—it's fact.

And while it isn't theory, neither is it competition, that is, legitimate competition, in the opinion of local paper men. Of course, its natural for anyone to want to buy and to buy as cheaply as possible, the paper men in California do that all of the time, but they do think that when eastern paper mills come out here, represented either by officials or brokers, they ought to observe the amenities of trade and compete fairly.

There is implied in the foregoing no threat of retaliation, but merely the announcement of a grim purpose on the part of Los Angeles business men in all lines to protect their own industries and their own interests. There is in existence out here an unique institution known as the Friday Luncheon Club. At present this is composed largely of men interested in the building trades, and it has for its object the stimulation of home industry by fostering the use of Los Angeles manufactured materials in building. It has functioned very successfully in the building field and men in other lines of industry are considering seriously the endorsement of the same plan for the purpose of interesting the business men of Los Angeles who are the consumers of materials of all kinds in the fact that just as good can be procured from Los Angeles sources as can be procured elsewhere, and that the Los Angeles institutions are better able to render service than are their eastern competitiors. But, whatever the outcome of the present situation, this much is certain, the future will prove to be increasingly hard for the east seriously to interfere in Pacific Coast business matters.

Paper Box Makers Solve Problem

But one branch of the Los Angeles paper trade, if that term be extended to include the manufacturers of paper boxes, has solved the problem of eastern interference in a manner which has been effective if unsatisfactory to the concerns involved. The fact is that the paper box manufacturers here are selling their product at such low prices that it is impossible for any eastern manufacturer of boxes to cut into the trade, but also the local manufacturers are doing business without any profit for themselves.

As a matter of fact, the paper box business in Los Angeles is badly demoralized at the present time. There is a Pacific Coast Paper Box Manufacturers Association, but the Los Angeles Division of it is dead in the shell. It has not functioned here for better than a year. Likewise, there used to be a local association of paper box manufacturers, but it also is dead as Caesar just at present. Out of the fourteen or fifteen paper paper box manufacturers here two or three are paying the rent upon a room in a downtown office building wherein the association used to meet, hoping against hope that something will eventuate soon to revive the association and some attempt be made to correct the present unsatisfactory condition of things in the industry.

Becoming cognizant of this situation your correspondent recently made it his business to call upon practically every paper box manufacturer in Los Angeles to see what was the trouble. It was not difficult to find. It is simply lack of confidence in one another. Practically every man called upon pointed his thumb over his shoulder at the other fellow and claimed that he was to blame for the condition. In other words, not one of them will trust any one of his competitiors as far as he can throw a bull by the tail, and just as long as this condition continues to persist the paper box business in Los Angeles will be a losing game.

Volume of Business Not Large Enough

Apparently the trouble started about a year ago. During the last two years several concerns have entered the field here and there was not a sufficient volume of business for all to get what each had been doing in the past. It may be human nature to try to cut loose and to make an effort to retain volume when it apparently is falling off and too many men are inclined to do so by cutting prices. This happened in the paper box industry. The association blew up and whatever restraining influence it may once have had was lost to the industry. Since then every manufacturer has gone his own way, with the result that the business as a whole is all but hopelessly demoralized and no one is making any money to speak of.

Besides the hope of a few, some also of the others are trying to inspire the industry with a desire to revive the association and to invest it with sufficient force to bring about a reform in present conditions. These men are convinced that the only way to inject confidence into the industry is to get those few who believe that confidence is begotten by confidence to get together and by the force of example bring the others into line.

Present trade conditions as far as the paper jobbing fraternity

is concerned are fairly satisfactory. All during the summer trade has been maintained at a level above what is commonly to be expected for the summer season, and now that it is school opening time considerable accessions to trade have been experienced by most of the concerns. General trade conditions too appear to be improving and the paper concerns are looking forward to a busy and prosperous season, that is, on the better grades of paper. Coarse grades still are in the dumps and apparently there is small likelihood of an improvement for some time to come.

Gates-Burns Business Growing

The Gates-Burns Paper Products Company, 3714 Avalon Boulevard, reports a growing business. This concern is the only firm in Los Angeles making the kind of paper products, consisting of tubes, cartons for proprietory articles, and other specialty paper productions, and it says that during the last two years its progress has been relatively slow because it had to develop the demand for its class of products. Neither Gates nor Burns appear in the concern now except as their names appear. The business was started here by them a few years ago but apparently it was started too soon, because it did not make money. About two years ago A. C. Huston, an engineer who had got his training with an eastern manufacturer of corrugated paper boards, and Chester D. Bonesteel, a young business man from San Francisco, took over the business, and have been trying since to build it up. It now is a going concern, and as the population of the far west increases it is finding an ever widening market for its products.

Generally speaking, collections in the paper trades are reported to be fairly satisfactory. General trade conditions have been better since last winter, owing to the breaking of the drouth conditions which had prevailed out here for two or three years, and since then most business concerns have had the money to pay for whatever they may have purchased.

Pioneer Paper Co. Expands

A production capacity three times as great as that of a year ago will be guaranteed for the $2,000,000 plant of the Pioneer Paper Company, 5500 South Alameda street, Los Angeles, Cal., through a new expansion ordered by Willis G. Hunt, president of the concern, after his return from the east, where he purchased machinery and studied conditions and modern methods of the industry. It is the second major expansion for the year and the factory, covering 16 acres of ground, is now ranked as one of the main roofing, building, and wrapping paper manufacturing concerns in the west. Included in the new expansion program will be the installation of $130,000 worth of new machinery purchased in the East and the erection of a one-story brick and corrugated iron factory building, 60 x 209 feet. Work is also progressing at the present time upon a new plant laboratory.

The growth of the Pioneer Paper Company has been phenomenal. The business was founded in 1888 when Mr. Hunt and H. M. Eichelberger, the present secretary-treasurer, established a small plant on a side street in Los Angeles for the production of wrapping paper, the "working personnel" of the plant consisting of one man. Hand-in-hand with the rapid growth of Southern California, grew Pioneer, the number of employees being increased and new departments added. Production of building paper and composition roofing was also included in its activities. The firm invaded national and foreign markets, and finally assumed its present proportions. When the new construction program is complete establishment of a more extensive marketing system will also be made.

Improved Fire Protection for Little Chute

Improved fire protection will be given the Combined Locks Paper Company's mill at Little Chute, Wis., through negotiations which the village is conducting at the present time for purchase of a new fire truck. A large vehicle will be bought so that it will be ample for fighting large and serious fires.

Paper Demand in Cleveland Improving

[FROM OUR REGULAR CORRESPONDENT]

CLEVELAND, September 7, 1926.—Paper wholesalers report a very satisfactory August with business this year considerably ahead of last year. There is every prospect that the remainder of the year will continue satisfactory since general business conditions here are rapidly improving. Plants, closed or running short time for inventories and vacations are opening up on full time with a decided decrease in unemployment. The settlement of the huge building strike which has stopped new office space rental for five months, has given impetus to the printing trade with a consequent demand upon the paper jobbers. Wraps and bags are also moving more satisfactorily with the better business conditions. Collections, as has been the case for several months, are not all that could be desired.

The local office of the Scott Paper Company reports a 25 per cent increase in the demand for tissues over a year ago. This increase applies largely to paper towels. The Cleveland office covers Cleveland and several other towns in northern Ohio. C. R. Working, recently appointed manager is in charge.

Sid H. Cohen, who is manager of the Akron office for the Scott Power Company and who stopped in Cleveland on his way to the home office at Pittsburgh says the tissue business in his territory is practically doubled over one year ago.

Cleveland and Akron Scott salesmen left tonight to attend the sales convention at the Pittsburgh home office of sales staffs from Northern Ohio, Western Pennsylvania, Western New York and West Virginia. In addition to Working and Cohen, T. Patterson, of the Cleveland office was in the party.

E. Linzey in charge of the Individual Drinking Cup Company's Cleveland office announces a decided increasing demand for cups throughout the state which is controlled from Cleveland. This is believed due to the increasing demand for sanitation. The most gratifying feature of the better business is that more orders are being received for paper drinking cups in the home. The company recently conducted a national advertising campaign attaching a coupon to every piece of advertising all of which contained an appeal to the household for the sanitation afforded by individual cups. The company received the usual thousands of answers with returned coupons. Each coupon called for a wall container for the cups and a carton of cups. Now the company is receiving more thousands of actual orders from those who sent for samples and a gratifying majority are from homes.

Estate of William Pierce Johnson

SAN FRANCISCO, Cal., September 3, 1926. The will of William Pierce Johnson, San Francisco paper manufacturer and capitalist who died recently in Paris, was filed for probate last week.

The value of the estate is not mentioned in the will, but attorneys who filed the probate proceedings estimated it at several million dollars.

After making several bequests to servants and employees Mr. Johnson divided his estate into halves. One portion, he set forth, belonged to his widow, Mrs. Florence Lindsay Johnson, 1300 Jones street, as community property. In addition she received one-third of the remaining half. Another third went to Mrs. Josephine Johnson Milton, 150 Monte Vista avenue, Oakland. The remaining third was placed in trust for the five children of his dead daughter, Mrs. George S. Towne.

Two sons-in-law, Maxwell C. Milton and George S. Towne, of Oakland, were bequeathed $125,000 each.

To his secretary, Miss Edna Dickey, 5730 Presley way, Oakland, Mr. Johnson willed $25,000 "in recognition of twenty years of faithful and intelligent service." George V. Smith, 1216 Clay street, and Wong Gan, servant at the family home, 1300 Jones street, were given $2,000 each. Three thousand dollars each were given Kate McLeod, another employee, and Lew Hop, formerly servant for his deceased daughter.

Paper Business Improving Steadily in Toronto

Wholesale Paper Merchants Receiving Larger Orders Than For Some Time—Paper Warehouses Holding "Open House" for Visitors to Annual Canadian National Exhibition — Gratifying Report Issued of Spanish River Pulp and Paper Mills

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., September 6, 1926.—The paper business has been very good during the past week and a larger number of orders than usual have been received by the wholesalers, while the mills are all busy. The outlook for the fall is improving steadily, owing to the bountiful harvest, the gradual resumption of industrial activity, and the lessening of unemployment. The present federal election, voting in which will take place next week, is having little or no disturbing effect on the business situation generally, while the Canadian-National Exhibition, now in progress, is attracting a large influx of visitors to Toronto. Printers, publishers and others are coming here, in big numbers and paying visits to the respective warehouses, all of which are holding "open house." There are several splendid displays made by paper firms at the Exhibition which are attracting much attention. The feeling expressed by all paper exponents is that business will be considerably better during the fall months.

J. F. Ellis Speaks on Paper

Manufacturers' Day was observed at the Canadian National Exhibition, Toronto, on September 4, and drew a large crowd. Among the speakers at the Directors' luncheon was John F. Ellis, honorary president of the Canadian Paper Trade Association. Mr. Ellis, who recently celebrated the fiftieth business anniversary of his firm, Barber-Ellis, Ltd., has attended the big fair ever since its inception 48 years ago and has never missed once. He said that the paper industry helped everybody. When he started in business not a sheet of note or book paper was made in the Dominion, but today there was a great production, and Canada was exporting fine papers and thousands of tons of newsprint every day to the United States and also to England, Australia, and other countries, and a great future awaited the industry in the Dominion.

Spanish Rivers Good Showing

The fifteenth annual report of the Spanish River Pulp and Paper Mills, which has been published for the year ending June 30, 1926, is a very gratifying one. The gross profits for the year amounted to $3,743,448 compared with $3,851,645 in the year previous. The allowance for depreciation was $602,499, and interest charges $695,046. The net profits stand at $2,195,902, showing a decrease of $88,669 and, after disbursing the regular preferred and common dividends and carrying $239,744 to reserve, the balance added to surplus account was $550,986, bringing the total to $7,009,309. The balance sheet is the strongest ever shown in the history of the company, showing an increase in net working capital of $403,406, the total standing at $9,831,079. Commenting upon the year's activities and statement, George H. Mead, of Dayton, Ohio, president of the company, said:

"The income account and balance sheet presented herewith reflect a condition of continued progress which will, no doubt, prove very gratifying to the shareholders, considering the lower prices of the company's products which prevailed during this period. It will be noted that there has been a substantial reduction in the inventories with a corresponding increase in the cash position of the company..

"Your directors deem it advisable to maintain a strong cash position, thus enabling the management to continue its policy of installing from time to time improved equipment to reduce costs and maintain the company's excellent competitive position without increasing capital obligations.

"The company's investments include a substantial interest in the Fort William Paper Company, Ltd., purchased some years ago. This has proven a profitable investment and valuable connection. Pursuing this policy of enlarging its interests in the development of the paper industry in Canada, the company has, after careful investigation, acquired considerable holding in the capital stock of the Manitoba Paper Company, Ltd., which will be in production before the end of 1926."

New Mill at Trenton Progresses

Good progress is being made on the new plant of the Hinde and Dauch Paper Company's board mill at Trenton, Ont., which will have a capacity of fifty tons of strawboard daily. It is expected that the mill will start producing about the first of the year. The company is now taking in baled wheat and rye straw in carload lots, team and track deliveries. Threshers are being advised to keep their wheat and rye straw separate from other straw. In a recent announcement, the company says that neighbors may combine and press the straw and larger pressers may purchase straw from the farmers, who have not baling facilities, and deliver the product to the company.

Abitibi Stock Is Active

The common stock of the Abitibi Power and Paper Company, Iroquois Falls, Ont., has reached a new high level. The excellent showing made both by the Laurentide Company and the Spanish River Pulp and Paper Mills, has done a good deal to convince the friends of the Abitibi Company that the organization is participating in a broad way in the improvement which the news print industry in Canada has been witnessing. It is argued that, if the two older concerns have been able to do as much as their reports show, then the Abitibi Company, with its low cost production and able administration, should experience one of the best years in its history. It is believed that the common stock of the Abitibi Company will soon carry an increased dividend distribution. The 4 per cent payment, which has been continued for the last four years, has been earned by a considerable margin each year. The average earnings on the common stock since 1922 has been $9.75 a share as against the dividend payment of $4.

Campers Are More Careful

According to reports on the causes of fire in the Algoma district, it would appear that campers in the bush during the past season have been exercising more care, and the propaganda of the Forestry Branch of Ontario, and others interested in the welfare of the district, is having a good effect. This condition is particularly noticeable in the Missassuaga Forest Reserve, where not a single fire can be blamed on campers.

New Developments in Wood

Wellington Simmons, of the Deloro Research Laboratories, Welland, Ont., who left recently for Bethlehem, Pa., where he will attend the Lehigh University and engage in chemical research work, delivered an interesting address previous to his departure before the Rotary Club, of Welland, on "Trees and the Industries Connected Therewith." He declared that there was practically a new development in wood every day and predicted a great future for the artificial silk industry.

Pulpwood Workers Are Scarce

There has been a great scarcity of help in the pulpwood camps during the past season and as a result there will probably not be

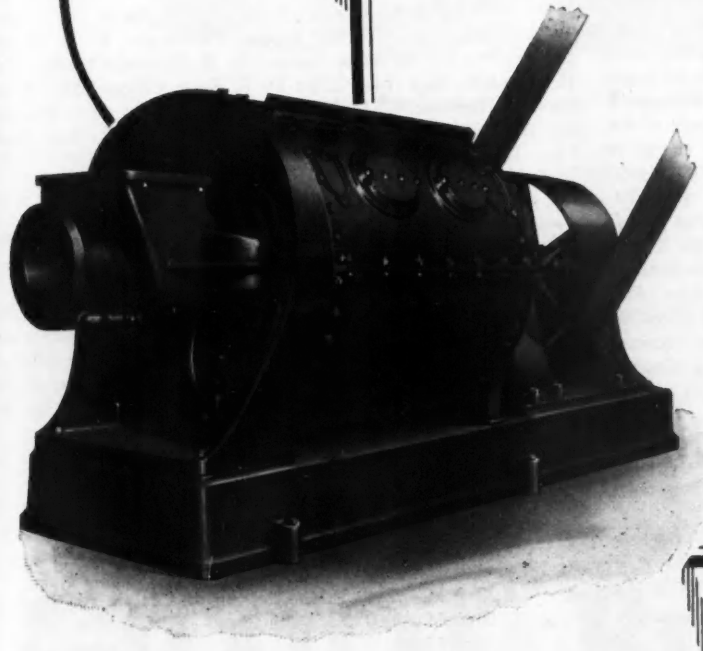
(*Continued on page 34*)

The Bird Pulp Screen

One of the finest, most up-to-date mills in the industry has ordered eighteen Bird Pulp Screens; another seventeen; another nine; four more have six each.

The confidence which these users have placed in the Bird Pulp Screen is quite evidently based upon its superior performance. It has proved to them its ability to produce a large capacity of first quality stock at a real saving.

Are you willing to profit by the experience of these progressive pulp makers?



As good for pulp as the Bird Screen is for paper

168

BIRD MACHINE COMPANY **BIRD** SOUTH WALPOLE, MASS.

MACHINERY

Rex Paper Co. Makes Improvements

Beating and Washing Department of the Plant Being Overhauled and Considerable New Machinery Being Installed—Fred C. Clark Leaves Hawthorne Paper Co. To Operate Plant at Burnside, Conn.—Pacemakers Club to Vacationize at Charlevoix

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., September 7, 1926.—The beater and washing department of the Rex Paper Company's mill is being overhauled and considerable new equipment is being installed according to Merrill B. King, president of the company. It will materially improve the plant's facilities for converting old papers. A large E D. Jones washer has been purchased as one of the chief items in the general improvement. A Norwood filter has also been ordered, while the power system is being enlarged by the installation of a 400 horse power Skinner uniflow condensing engine, directly connected to a generator. The added engine will materially relieve the overload now carried by the power unit.

F. C. Clark Goes To Burnside, Conn.

Frederick C. Clark, formerly vice-president and secretary of the Hawthorne Paper Company, has resigned his position and plans to leave Kalamazoo, making his home in the east. In company with Ray Hatch, recently with the Mead paper interests at Dayton, Ohio, he has purchased a small mill at Burnside, Conn., which they plan to rebuild and operate.

In the meantime the Hawthorne organization is in negotiation with several parties to secure a capable successor to fill Mr. Clark's position. C. Hubbard Kleinstuck, vice-president and chairman of the board reports that no definite decision has as yet been reached in the selection of the desired person.

Price of English China Clays To Increase

Indications of an increase in the price of English china clays, an indispensible product in connection with the coating of paper, are carried in the St. Austell *Cornish Guardian* of August 13. Any advance that may be made is laid directly as a result of the English coal strike and the unprecedentedly high price of coal in that country.

William E. Knight, Kalamazoo and South Haven, representative of the Consolidated Mines of Cornwall, is in receipt of official notice of conditions in the Cornish clay mines, also a copy of the *Cornish Guardian* of the date indicated, which says in part: "The prolongation of the coal strike is having a serious effect on the China clay industry, as apart from the necessity of having to buy foreign coal at exorbitant prices, the results obtained from a ton of foreign coal are not comparable with those obtained from a ton of the class of British coal normally used in clay drying.

"Seeing that coal costs are, next to labor, the highest in the production of china clay, there must be an increase in the price of all grades of clay if the producers are to recoup themselves for the heavy extra costs they are having to incur."

Mr. Knight is in receipt of information that the steamship Hillbrook, left England the latter part of August, loaded with clay for the coating mills of the Kalamazoo valley. It is expected to arrive the latter part of September.

Pacemakers' Club to Have Vacation

This week will see members of the Kalamazoo Loose Leaf Binder Company's "Pacemaker Club" vacationing at Charlevoix as guests of the company. This select organization consists of those who by their personal efforts have been able to maintain during the months of May, June, July and August, 100 per cent of their sales quota.

Forty salesmen and seven officials from the company's general offices are scheduled to arrive in Charlevoix Tuesday and be quartered at The Inn for the week. There will be fishing, boating, a golf tournament and special entertainment, the latter furnished by the Charlevoix Chamber of Commerce. Special cash prizes, aggregating 800 in value will also be distributed. The big wind-up banquet will be held Friday evening, the party dispersing Saturday morning.

But one business session is scheduled for the week, with Leon L. Allyn, sales manager, presiding and George P. Wigginton, president, giving the principle talk.

The list of participants in the outing will include:

KALAMAZOO GENERAL OFFICES: George P. Wigginton, president; Leon L. Allyn, sales manager and vice-president; A. L. Loring, assistant sales manager; C. D. Procter, advertising manager; T. L. Kornmann, public record department; R. E. Maloney, catalogue department; H. J. Broomhall, treasurer.

SALESMEN: J. D. Creel, Tampa; J. W. Hamilton, Kalamazoo; B. T. Rowley, Newark; W. M. Stockdell, Miami; J. J. Georgens, Newark; J. F. Sanderson, Dallas; E. E. Masten, Syracuse; C. E. Coleman, Washington; C. D. Paulson, Cincinnati; W. W. Wilks, Buffalo; H. T. McDonnell, Trenton; Tom Darnell, Peoria; W. T. Martin, Dallas; R. C. Berry, Pittsburgh; F. E. Miller, New York City; O. G. Beu, Boston; C. H. Arend, Fort Wayne; R. P. Lewis, Bay City; J. F. Murray, Newark; J. R. Kapp, Newark; J. C. Wuertzer, Boston; R. E. Fisher, Detroit; L. S. Moon, Grand Rapids; H. W. Hiscox, Cleveland; W. H. Parsons, Albany; F. L. Howey, New York City; J. D. Scott, Jr., Dallas; Tom Stone, Dallas; R. R. Young, Pittsburgh; F. D. Organ, Chicago; G. N. Anderson, Dallas; H. H. Roeder, Cleveland; C. H. Angstadt, New York City; D. E. Borg, Philadelphia; F. D. Ingersoll, Detroit; W. D. Lamborne, Washington; C. C. Kitchen, Toledo; R. G. Van Loozen, Detroit; W. A. Pool, New York City; J. M. Williams, Akron.

Paper Board Industries to Meet

The next meeting of the association will be held at the Congress Hotel, Chicago, Wednesday, September 22 and Thursday, September 23, 1926.

On Wednesday, September 22, there will be a meeting of the Folding Box Group in the morning and of the Paperboard Group in the afternoon. The Container Group meeting will be held on Thursday morning, September 23; the General Meeting of the three Groups in Joint Session convening at 2:00 P.M., Thursday afternoon.

The schedule of meetings is as follows:

Meeting in "The Florentine Room," Congress Hotel

WEDNESDAY, SEPTEMBER 22, 1926:

9:45 A.M.—1:00 P.M.—Meeting of Folding Box Group

2:00 P.M.—5:30 P.M.—Meeting of Paperboard Group

THURSDAY, SEPTEMBER 23, 1926:

9:30 A.M.—12:45 P.M.—Meeting of Container Group

1:00 P.M.—2:00 P.M.—Luncheon—all members—Florentine Room

2:00 P.M.—5:30 P.M.—Meeting of the 3 Groups in Joint Session.

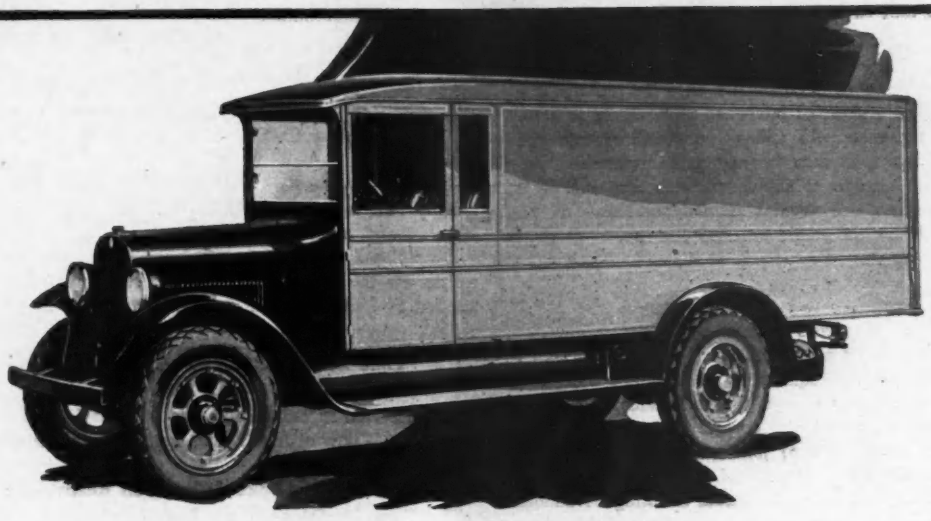
COMMITTEE MEETINGS—TUESDAY, SEPTEMBER 21

Notices will be sent out calling meeting of Standing Committees and Executive Committee, at the Congress, as follows:

MEETINGS OF STANDING COMMITTEES—11:00 A.M., Tuesday, September 21, Rooms 1120, 1124 and 1128.

MEETING OF EXECUTIVE COMMITTEE—2:30 P. M., Tuesday, September 21, Room 1120.

ANNOUNCING a Two Ton Truck



And now a Two Ton Truck bearing Graham Brothers name—

At a price made exceptionally low by huge production.

A truck that will contribute a new chapter to the history of commercial hauling.

A truck you will want to see!

Two Ton Truck Chassis

$1445

f. o. b. Detroit

Dual Rear Tires With Disc Wheels Optional

Graham Brothers Trucks, with Dodge Brothers ¾-Ton Commercial Cars meet 90% of all hauling requirements

GRAHAM BROTHERS
Evansville—DETROIT—Stockton
A DIVISION OF DODGE BROTHERS, INC
GRAHAM BROTHERS (CANADA) LIMITED—TORONTO, ONTARIO

GRAHAM BROTHERS TRUCKS

SOLD BY DODGE BROTHERS DEALERS EVERYWHERE

Simple Board Computing Formula

Worked Out Through Logical Relationship Existing Between Gauge List and Weight Per Thousand Square Feet

By W. H. Ellis, Jr.

The following article is from *Shears*. The editor of this publication in printing it says—This article is made available to *Shears* readers through the courtesy of the contributor, Mr. Ellis, of the Republic Paperboard Co., Cincinnati, who believes it will prove of interest to paper box manufacturers as well as board men because of its time-saving suggestions in figuring both rolls and sheets.

A Simple Formula

There are many advantages in connection with the recent change in the standard size of a sheet of boxboard from 26x38 to 25x40. Chief of these is the ease with which the count of odd sizes may be computed, but it is also interesting to note that, as a direct result of this change, a simple formula may be found which quickly translates the regular number or basis of any sheet into the weight of the same material per thousand square feet. This relationship can be remembered without difficulty:

(Weight per 1000 square feet) $W = \frac{7200}{B}$ (Basis or regular number)

If you have the means of accurately weighing any representative sample of board one foot square, by an ordinary triscale or otherwise, divide the weight of one thousand square feet into 7200, which gives as a result, the correct regular number or basis of the sample, *irrespective of finish or caliper*. This suggests a very easy and convenient method of checking the sheet count in a car of boxboard, when the actual counting of bundles is tedious, difficult or undesirable for any reason. Obtain several representative samples one foot square, use the average weight of these samples, figure it per thousand square feet and apply the formula. If the resulting regular number is in accordance with your order, the sheet count will automatically be correct also. If not in accordance with your order, the count will be incorrect by a like amount.

Manufacturers of corrugated boxes and other roll users are generally concerned only with the weight per thousand square feet of the board they buy, but here again it will be found useful in translating this unit of measurement into the terms more commonly used by and known to the manufacturer of heavy weight chip or combination board, viz., regular number or count. Sometimes it is very nice to know just what a certain weight per thousand square feet means in terms of the regular number on the standard guage list.

Formula Applies in All Cases

It is easy to show that this formula applies in all cases and those of a mathematical turn of mind will perhaps be interested in the derivation which follows and the examples illustrating its use.

Let B = Basis or regular number
w = Weight of one square foot
W = Weight of 1000 square feet

Each sheet 25x40 inches contains 1000 square inches. The regular number or basis, B, tells us the number of sheets in each standard bundle of 50 pounds, and there are 40 bundles per ton. Therefore, find the number of square feet per ton as follows:

$$\frac{1000 \times 40 \times B}{144 \text{ (square inches)}}$$

This weight one ton, or 2000 pounds, and to find the weight of one square foot, we, divide this expression into 2000.

$$w = \frac{2000}{\frac{1000 \times 40 \times B}{144}}$$

reducing by cancellation,

$$w = \frac{7.2}{B}$$

$$W = 1000\ w = \frac{7200}{B} \text{ or } B = \frac{7200}{W}$$

Example—A sheet of chipboard calipers .030, No. 1 rough dry finish. This is regular number 75. 7200 divided by 75 = 96 lbs. per thousand square feet.

Example—A sheet of board, irrespective of caliper and finish, weighs on the triscale 75.8 lbs. per thousand square feet. 7200 divided by 75.8 = 95, the regular number.

IMPROVEMENT IN TORONTO

(Continued from page 30)

as much peeled in certain districts of Ontario as last. The peeling season is now over and new contracts will soon be made with settlers for 1927.

Superior Mills Soon Ready

The Superior Paper Mills, Ltd., of Thorold, Ont., who are erecting a new plant in that town for the production of lightweight specialty papers, including pattern tissue and twisting tissue, are offering direct to the public $100,000 of their capital stock at par. It is said the company have orders already on their books for pattern tissues and twisting tissues that will keep them busy for a long period, these lines not being manufactured in Canada.

The Superior Paper Mills, Ltd., have no bonds or preferred stock and their capital of $250,000, is the only charge against profits. A total of $50,000 of stock has been subscribed for at par by the officials of the company and their friends. The buildings now under construction are about 85 per cent completed, and full machinery equipment which is on the ground ready for installation, has been paid for.

Notes and Jottings of the Trade

Fred W. Halls, of the Fred W. Halls Paper Company, Toronto, has been nominated as president of the City Club, of Toronto, for the coming year. During the past year he was a member of the executive.

After "Young Canada Day" at the Canadian National Exhibition, when the attendance reached 211,000, a gang of 75 men cleared the 300 acres of grounds of 150 tons of waste paper.

S. Cowan, of Port Arthur, Ont., who has been doing effective work in connection with organizing the settlers of that district of Ontario against the imposition of an export tax or embargo on pulpwood cut from private lands, spent a few days in Toronto lately on business.

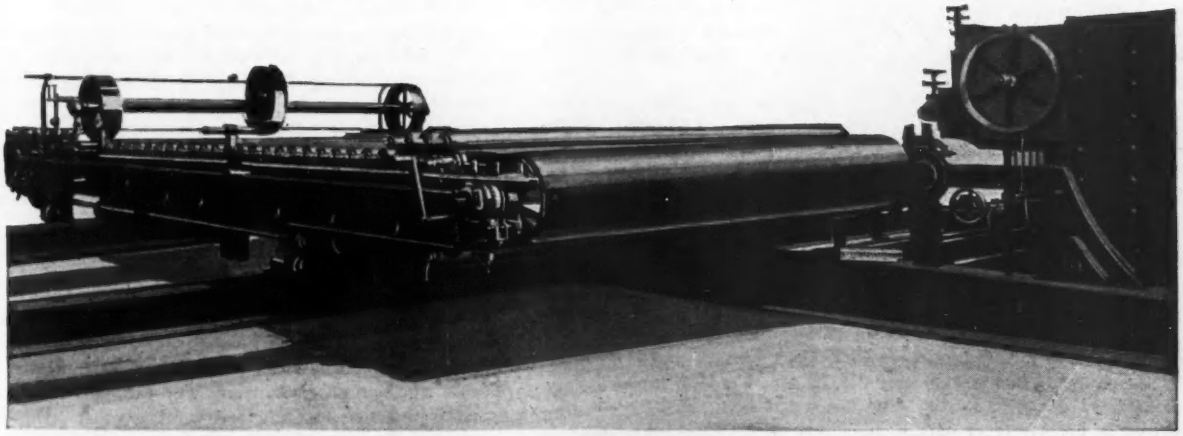
W. F. V. Atkinson, of Ottawa, formerly of Toronto, who is now engaged in surveying a new town site at the junction of the Manicouagan and St. Lawrence rivers in the lower part of Quebec province for the Ontario Pulp and Paper Company and the Anglo-Canadian Pulp and Paper Company, both of which have large limits in that district, spent a few days in Toronto last week.

38"-Removable [BELOIT PAT.] FOURDRINIERS

built and building 10-repeat orders !!

No Handling of:

Rolls, Suction Boxes, Save-Alls, No Wear and Tear on Running Parts, No Misplacement of Rolls or Bearings, No More Heavy Lifting, New Wire Put on Widest Machine in One Hour or Less



The NEW BELOIT FOURDRINIER

FOUNDED 1858 BELOIT IRON WORKS PAPER MACH'Y BELOIT WIS.

BELOIT IRON WORKS Beloit, Wisconsin, U. S. A.

Growth of Paper Manufacture in Canada*

The recent action of the leading American paper manufacturing company in undertaking the development of hydro-electric power at Grand Falls, New Brunswick, is interesting as an illustration of the growing importance of paper manufacture in Canada. The phenomenal expansion in Canadian production has been among the outstanding features of the history of the paper industry in the last decade.

The present project, which contemplates an ultimate total expenditure of between $25,000,000 and $40,000,000 will involve the construction of a hydro-electric power plant with an initial capacity of 60,000 horse-power, together with news print paper mills to be located in the Province of New Brunswick. A portion of the power will be reserved for the use of the Province, while the remainder will be used by the new mills. The construction at Grand Falls is the latest of a number of similar projects undertaken by the company in recent years, one of which, located on the Gatineau River, Quebec, was begun only a few months ago.

The surplus power generated by several plants is sold to outsiders, and one of the large mills has already become a factor of considerable importance in the public utility field. This is a tendency which will in all probability become increasingly evident. Paper production and water-power development go naturally hand-in-hand, since the manufacture of paper on a large scale requires not only an ample power supply but vast quantities of water.

The output of news print in this country has remained nearly stationary, while the Canadian production has grown very rapidly. Last year the two totals were practically equal. If the present tendency continues—and there is every reason to suppose that it will—the Canadian output will exceed the American this year, and in a short time it will be easily the predominating factor in the domestic news print market.

The increase in the Canadian output is virtually a measure of the growth of American consumption, since most of the news print made in Canada is exported to the United States. Last year 85 per cent of the total output was shipped to this country. Although the United States also imports news print from other sources, these are relatively unimportant. American exports likewise represent a small factor. The domestic situation in 1913 and in 1925 may be summarized as follows (figures represent short tons):

	1913	1925
Domestic production	1,305,000	1,530,000
Imports from Canada	219,000	1,295,000
Other imports	1,000	153,000
	1,525,000	2,978,000
Exports	43,000	23,000
Apparent consumption	1,482,000	2,955,000

Since 1913 the apparent American consumption (not allowing for variations in stocks) has increased 1,473,000 tons, or practically 100 per cent. Of this amount only 225,000 tons has been supplied by increased domestic output. The deficit has been filled by an increase in imports from Canada amounting to 1,076,000 tons, an increase in other imports amounting to 152,000 tons and a curtailment in exports of 20,000 tons. Exports from this country in 1923 and 1924 were even smaller than last year.

Result of Number of Factors

The growth of the Canadian industry is the result of a number of economic factors, the most important of which is an abundant supply of suitable timber available for news print manufacture. It is a notorious fact that the timber supply of the United States has been used with such prodigality that considerable less than half of the original stand of merchantable wood remains. Of the existing supply, only a fraction, of course, is suitable for pulp and paper manufacture. An additional difficulty is the fact that paper making requires a large investment of capital in fixed properties, so that the industry cannot "follow the forest" as the lumber industry can. On the other hand, the transportation of logs over long distances, except where it is possible to float them downstream to the mill, is very expensive. A large proportion of the remaining supply of pulp wood in the United States is in the Far West, at vast distances from most of the existing mills.

At present the Canadian paper industry is naturally centered in the eastern Provinces, but here also the available supplies of pulp wood have been seriously depleted. In course of time a westward movement is inevitable. While considerable quantities of pulp wood are known to exist in the prairie Provinces, by far the largest part of the pulp wood supply of western Canada is in the Province of British Columbia. The paper industry in that region is still in its early stages, but the supplies of timber and of water power indicate that development on a vast scale is to be expected. The undeveloped water power of British Columbia has been estimated at 3,000,000 horse power

Effects on Trade Relations

The importance of the Canadian pulp and paper industry, especially from the Canadian point of view, has made it a leading influence in the trade relations between Canada and the United States. The American paper industry has grown up under a regime of tariff protection, and most branches of it are protected today. Standard news print, however, has entered free since 1913, for the obvious reason that the demand for this variety of paper has far outstripped the capacity of domestic mills, and that the deficit can be most economically supplied by Canada. There is a duty of 10 per cent ad valorem and ¼ cent a pound on printing paper other than news print. Paper board is taxed at 10 per cent ad valorem, wrapping paper at 30 per cent and writing paper at 15 per cent and 5 cents a pound.

Partly because of these protective duties and partly because economic factors are not so strikingly favorable to Canada in the production of high-grade papers, the other branches of paper manufacture in the Dominion have not kept pace with news print. There have been numerous schemes to aid the development of the Canadian industry by securing the repeal or reduction of American import duties on paper other than news print, but these have been consistently opposed by American interests. Most of these plans have taken the form of proposed embargoes or export taxes on the exportation from Canada of wood and pulp, but in view of the great success and the remarkable growth which the news print industry in Canada has enjoyed under the existing conditions, sentiment in Canada is far from being unanimous in suggesting any changes in these conditions. The exportation of pulp wood from Candian Crown lands has been prohibited for many years, and any embargo or export tax would bear heavily on private owners of Canadian timber land, mostly small farmers, who are now permitted to dispose of their product in any way they wish, and undoubtedly receive a better price for their wood, whether or not exported, because of the demand of the American mills.

Little Likelihood of Over-Production

The effects of the temporary shortage during and after the war are especially apparent in the price of news print, which rose in 1920 to a peak of more than 700 per cent of the 1915 average. In recent years the rapid expansion of plant capacities has occasioned some fear of over-production, but the steadily increasing growth in consumption has gone far to allay this fear.

In the manufacture of paper other than news print, the position of American mills is much more favorable. The sources of

(*Continued on page 70*)

* The Guaranty Survey.

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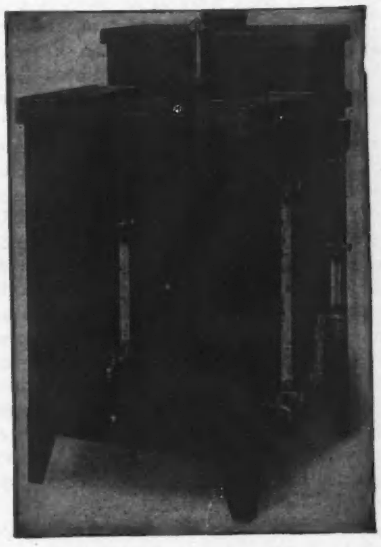
ESTABLISHED 1885

Worm gears demand clean lubricants!

Our 5 AS filter (Richardson-Phenix type) makes dirty lubricants clean---that's why there are so many Bowser filter installations for worm gears!

Cool, clean oil---oil with its original viscosity---insures continuous operation---lower maintenance costs---longer life.

If you have a good worm gear reduction unit, protect it with Bowser filters.



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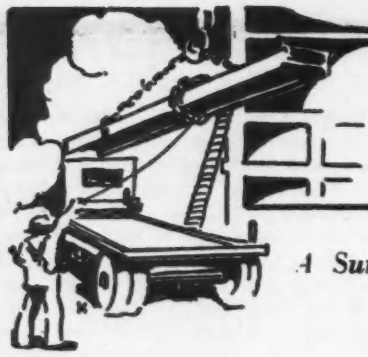


CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Bellingham, Wash.—The Pacific Coast Paper Mills Company has completed plans and will proceed with the construction of a new two-story mill, to be 50x250 feet, reported to cost close to $200,000, with machinery. Contract for the building and foundation has been let to the Puget Sound Bridge & Dredging Company, Central Building, Seattle, Wash., with award calling for completion in about 60 days.

Menominee, Mich.—The Bates Valve Bag Company, 8240 South Chicago avenue, Chicago, Ill., has plans under way for the construction of a new plant at Menominee, to be one-story, 82x240 feet, estimated to cost in excess of $50,000, with equipment. It is expected to begin work at an early date. The company will also proceed with the construction of another branch plant for its paper bag specialties at Covington, Va., for which a general contract recently was let to the Morton C. Tuttle Company, Park Square Trust Building, Boston, Mass.; it will be one-story, 80x240 feet, to cost approximately $50,000.

San Francisco, Cal.—The San Francisco Fibre and Cordage Company, San Bruno avenue, is said to have tentative plans under way for the rebuilding of the portion of its plant recently destroyed by fire with loss reported in excess of $25,000.

Marion, Ind.—The Economy Box and Pie Plate Company has completed plans for the construction of a new addition to its plant for the manufacture of paper specialties, to be one-story and basement, 80x120 feet, located at Winona and Forest avenues, reported to cost about $30,000, with equipment. A general contract for building has been let to C. W. Barley, 324 North Branson street, Marion. W. H. Arthur is general manager.

Chicago, Ill.—The Burhop Paper Company, Division street, has asked bids on general contract for the erection of a new one-story addition to its present four-story factory and office building, estimated to cost about $17,000, exclusive of equipment. Clarence Frazier, Chicago, is architect.

Memphis, Tenn.—The Acme Card System, 116 South Michigan boulevard, Chicago, has acquired property at 294 Madison avenue, and will operate a factory branch and distributing works at this location.

Kelso, Wash.—The Pacific Wood Pulp, Inc., recently organized by Longview, Wash., interests, with capital of $600,000, has tentative plans under consideration for the construction of a new pulp mill on site still to be selected. The company is said to be securing land in the vicinity of Kelso. The initial plant will consist of a main mill and several auxiliary structures, with capacity of about 30 tons per day, to be increased at a later date. The new company is headed by Charles F. Schaub, president of the Pacific Straw Board and Paper Company. A. F. Patterson, and H. L. Copeland, Longview.

Quincy, Ill.—The Robert Gair Company, manufacturer of Corrugated paper boxes and containers, is said to be planning the rebuilding of its pumping plant on the river front, recently partially destroyed by fire. An official estimate of loss has not been announced. New pumping equipment will be installed.

Laurel, Miss.—The Mason Fiber Company is developing maximum capacity at its recently completed mill on local site, lately placed in service, and expects to continue on the present basis for an indefinite period. The new plant is of concrete and steel type, and represents an investment said to be about $400,000. Available land has been acquired for future expansion. W. H. Mason heads the company.

Haverhill, Mass.—Fire, August 27, destroyed a portion of the plant of the Haverhill Box Board Company, with loss estimated in excess of $100,000, including stock and equipment. A considerable portion of the damage was sustained in the storage and distributing division. It is said that preliminary plans are being considered for rebuilding.

Cleveland, Ohio—The Ohio Box Board Company, 1390 East Thirteenth street, is reported to have preliminary plans under consideration for the construction of a new addition to its mill, to cost in excess of $100,000, with machinery. The project is understood to be in a tentative stage and not likely to mature for a number of months. Charles W. Hackett is secretary.

Marrero, La.—The Celotex Company, manufacturer of wall board products, etc., with main mill at Marrero, near New Orleans, is arranging for an increase in capital from $6,000,000 to $20,000,000, a portion of the proceeds to be used in connection with proposed extensions in the plant, for which a large tract of adjoining property recently was acquired. The company will also increase its common stock from 60,000 to 150,000 shares, no par value. Headquarters are at 645 North Michigan Boulevard.

Fort Williams, Ont.—The Fort William Paper Company, Ltd., will proceed at once with a proposed new addition to its mill, to be one-story, reported to cost about $300,000, with machinery The enlargement will provide for extensive increase in output.

Midland, Ont.—The International Fibreboard Company, Ltd., is said to have preliminary plans under way for the rebuilding of the portion of its mill recently destroyed by fire with loss reported at close to $100,000, including equipment. The reconstruction will cost close to a like sum.

New Companies

Winchester, Conn.—The Maderite Paper Box Company has been incorporated with a capital of $50,000, to manufacture paper boxes and containers. The incorporators are W. C. Kemp, L. W. Tiffany, Fred C. Strong and L. L. Chase, 11 Hillside avenue, Winchester.

New York, N. Y.—Derman Brothers, Inc., has been incorporated with a capital of $10,000, to manufacture paper boxes and containers. The incorporators are N. Kramer, A. Freeman and S. Rubin. The company is represented by Samuel Loewy, 1440 Broadway, New York, attorney.

Boston, Mass.—The Intercontinental Fibre Company has been incorporated with a capital of $50,000, to manufacture fibre products. Leon R. Rowe is president; and Isaac Goldberg, 7 Lenox street, Worcester, Mass., treasurer.

Central Falls, R. I.—The Albert Frost Paper Box Company, 448 High street, has filed notice of organization to manufacture and

SELF SUPPORTING

We have developed a self supporting steam or water joint for calenders. The adjustment is automatic when the plugging of the sheet separates the rolls.

Over one hundred now in use

Ask Us

The Pusey and Jones Company

WILMINGTON, DELAWARE
U. S. A.

deal in paper boxes and containers. The company is headed by Charles L. Hawes, 60 Blake street, Pawtucket, R. I.

Chicago, Ill.—The Vawter Company, 668 West Randolph street, has been incorporated with a capital of $10,000, to manufacture loose-leaf specialties and other paper products. The incorporators are J. M. and Frank M. Vawter.

Bordentown, N. J.—The Bottle Cap Patents Company has been incorporated with a capital of $200,000, to manufacture paper and other patented bottle caps, etc. The incorporators are Francis W. Overton, Hudson T. Winner and George W. Swift, Jr., 7 Ward street, Bordentown. The last noted is representative.

Hartland, Conn.—The Steg Paper Mills, Inc., has been incorporated with a capital of $50,000, to manufacture paper goods. It is purposed to operate a mill in this section. The incorporators are B. W. Gates, H. F. Koster and C. A. Bently, 898 Main street, Winsted, Conn. The last noted is representative.

Bomb Exploded in Cincinnati Paper House

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, September 1, 1926.—An explosion in the establishment of the Union Selling Company, Cincinnati wholesale paper and twine dealers on August 24, shattered windows in the building and caused a detonation which was heard for many blocks.

The blast was caused by the explosion of a bomb, suspended by a cord from the fifth floor. The bomb was clumsily made, a quantity of dynamite having been placed in a lead pipe. Instead of splitting into fragments, if constructed of iron, it merely burst. A crudely-constructed timer, of sandpaper and sulphur, was employed to discharge the device. The bomb apparently had been planted several hours before the explosion.

A number of employees narrowly escaped death or injury. Fortunately at the time of the explosion, they were not on the floor involved. All had been transferred from the third to the second floor a short time before.

Police are of the opinion that the device was placed by someone familiar with the building. The cord used to suspend the bomb, had been cut from a roll in the company's storeroom.

E. F. Herrilnger, president of the Union Selling Company, was not in the building at the time. E. J. Leahy, manager, said he could think of no reason why the bomb should have been placed.

"The greatest co-operation and friendship always has existed between officials and employees of our firm" he asserted, "and I cannot believe that any of our former employees are responsible for this act".

W. D. Mount To Make and Sell Swenson Evaporators

W. D. Mount Consulting Mechanical and Chemical Engineer, announces that on September 1, 1926, The Swenson Evaporator Company, a subsidiary of the Whiting Corporation, Harvey, Ill., will take over the manufacture and sale in the United States of his special line of apparatus and equipment, heretofore manufactured and sold by the Glamorgan Pipe and Foundry Company, including continuous causticizing systems with lime recovery, continuous pulp washing systems, continuous discharge gas fired lime kilns, rotary vacuum filters, caustic pots and seatings, special calcining furnaces, centrifugal pumps for molten caustic flakers, vacuum pumps, dryers.

The same apparatus and equipment will be manufactured and sold in the Dominion of Canada by the Canada Iron Foundries, Ltd., Montreal, and in England and on the continent by the International Construction Company, Ltd., 56 Kingsway, London.

Mr. Mount will act as consulting engineer for the three companies in connection with the manufacture and sale of these specialties, and will continue his office at 602 Peoples National Bank Building, Lynchburg, Virginia.

Sulphate Pulp From Wood

The firm of Otto Elsner is publishing, under the editorship of Prof. Dr.-Ing. Emil Heuser of Berlin, a complete text-book of pulp and paper manufacture with the title: "Technik und Praxis der Papierfabrikation." Volume two deals with the manufacture of pulps from wood (Die Fabrikation des Zellstoffes aus Holz); the work on sulphate pulp is part two of this volume. Part one, dealing with sulphite pulp, was written by R. Dieckmann.

The book opens with the history of sulphate pulp, which undoubtedly dates back to the early work of the Chinese; the first experiments of Schäffer (1765-1772) were failures but Koops (1807) patented the alkaline process for straw. The first application to wood is covered by the patents of Watt (1853) and Burgess (1854). The first mill to utilize the process was at Royersford, Pa. (1860).

Chapter two discusses the raw material, wood: its anatomical structure, the length and breadth of the individual fibers of different species, the water content of wood, the volume content, the chemical composition of the various components of the wood (cellulose, hemicellulose, lignin and the resins, waxes, etc.).

Chapter three deals with the preparation of the wood for the cooking process. Piling of wood is first discussed since this is an important part of successful storage and also because it is desirable to work with wood as dry as possible. Barkers are also considered, since the view is steadily gaining ground that to manufacture quality pulp it is desirable to remove the bark more or less completely. This is followed by a brief discussion of chippers and sieves and screens.

Chapter four covers the chemistry of the cooking process, the sulphate and sulphide process being considered separately. Much of the material in this section is quoted from Sutermeister, Witham and Christiansen. The action of these reagents upon the various constituents of the wood is considered in detail. Several pages are devoted to the composition and physical properties of rosin oil. Chapter five deals with the technical side of the cooking process and considers digesters and diffusers. The various systems of washing sulphate pulp are considered in Chapter six and the evaporation of the black liquor and the recovery of soda in Chapter seven. The causes of loss in the regeneration of the alkali are discussed in Chapter eight, while chapter nine considers Moore's process for alkali recovery, the Rinman process and the possibility of dry distillation (White and Rue). Abstracts of recent patents are given.

The introduction of sulphate in place of carbonate to replace the alkali loss had, as one result, the production of the well-known sulphate "odors," due to the formation of organic sulphur compounds. This question is discussed in Chapter ten.

The refining of sulphate pulp (chapter eleven) calls for a discussion of knot-catchers, kollergangs and other refiners, screens and consistency regulators (Trimbey, Arca, etc.).

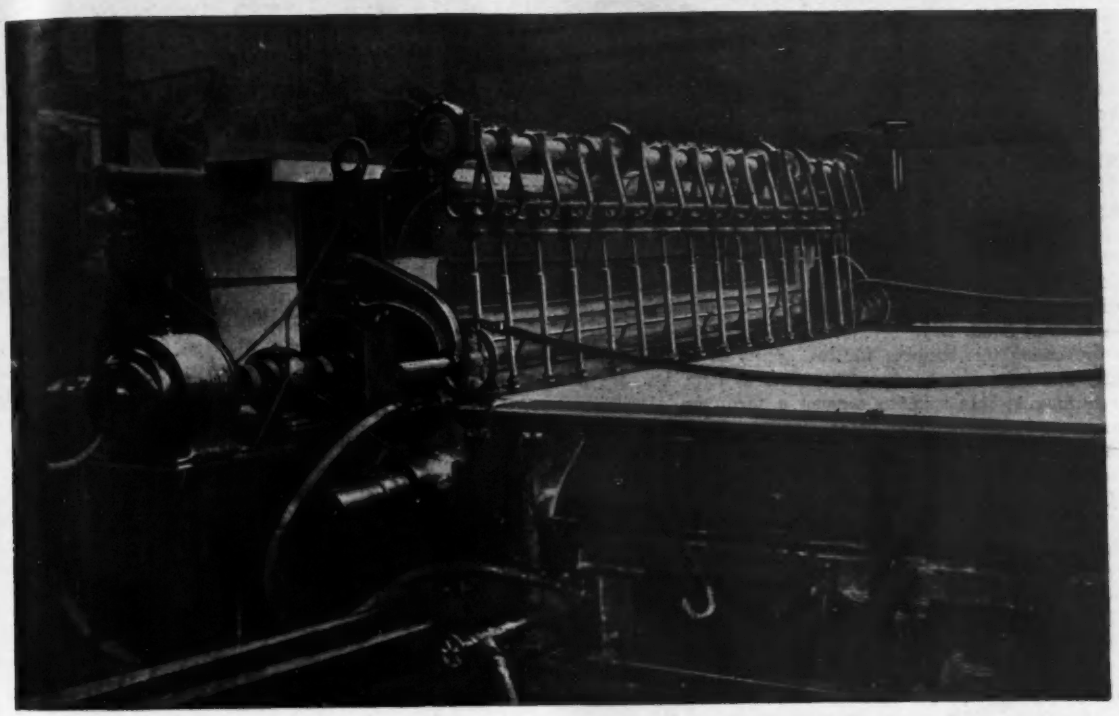
The section of chemical control and pulp testing is contributed by G. K. Bergen and covers the usual topics.

Chapter fifteen gives, in several tables, the results of the chemical examination of sulphate pulps by Christiansen, Wells and Schorger.

Heat relations are discussed in Chapter sixteen, the work being done with H. Brahmer and G. Sundblad. Several comparisons are made between the heat balances of old and new systems.

Numerous statistics are given in Chapter seventeen and eighteen. The last chapter is devoted to bringing the book "up to the minute," recent investigations being discussed.

The work is well printed and profusely illustrated. It is believed that, to those who read German, this book will be a very welcome and valuable addition to the literature of the sulphate process.—C. J. WEST.



Repeat Order for 3 Voith Stock Inlets

When a customer reorders it means that the initial purchase has performed to the satisfaction of the user. Recently a well known Eastern mill (name on request) installed a Voith High Pressure Stock Inlet. An order has just been received from this concern for three additional Voith Inlets.

The Voith Inlet made good in this installation as it has in over one hundred and forty others and as it will in your mill. There it is replacing the usual antiquated makeshift slice method. The Inlet is making better paper and reducing operating costs. Let us give you more information regarding the many paper making advantages of the Voith Inlet. Write today for 20-page Voith Inlet Booklet.

Better Paper at a Lower Cost

The Voith High Pressure Stock Inlet makes possible better paper at a lower cost. It helps to eliminate foam spots and lumps. The formation of the stock is better and the caliper is uniform. Simple adjustments make all this possible. Time is saved. Wires last from 20 to 30% longer. The Voith Inlet Booklet gives full particulars regarding the application of this appliance to your paper machine.

VALLEY IRON WORKS CO.

APPLETON, WISCONSIN

New York Office: 350 Madison Ave.

Obituary

Theodore Foster

UTICA, N. Y., September 7, 1926.—Theodore Foster, president of the Foster Box Board Company, and for years a prominent figure in the business and social circles of this city, died early August 29 at his home, 1437 Kemble Street.

Mr. Foster, who was 80 years of age, had been ill for more than a year. Death was due to infirmities incident to old age.

Mr. Foster was born at Durhamville, April 17, 1846, son of the late Orson and Dulinda A. Smith Foster. After receiving his education in the district schools and in the Oneida Academy, he engaged with his brother, Oscar S. Foster, in the manufacture of tile and brick at South Bay.

After following this business for two years, he engaged as a contractor and builder and real estate dealer at Erie, Pa., for a time, returning to this state to conduct a farm near Durhamville, where he remained for 12 years.

In 1889 he became a member of the firm of Foster Brothers, manufacturers of spring beds in this city, where he continued until 1891. In addition to his other activities he was for 20 years manager of the estate of Nellis Barnes at Sylvan Beach and was also for several years in the wagon and horse furnishing business in this city.

In 1900 he organized the Lion Manufacturing company of St. Johnsville and served as its president until 1920, when he disposed of his interest.

With his brother, William S. Foster, in 1905, he organized the Foster Box Board Company of Utica and here again his business ability demonstrated itself in the growing success of the enterprise. He served the business as treasurer and general manager and for the past three years had been its president.

He had been a director of the Oneida National Bank of Oneida; a director of the Excelsior Insurance Company of Syracuse, and treasurer of the Fonda Container Company of Utica. He was a member of the Kuyrahoora Club, the Automobile Club of Utica and was probably the oldest member of the Rotary Club. He was a member of the Church of the Reconciliation and had served the church as trustee.

Mr. Foster was twice married. His first wife was Lois Lorella Barnes, daughter of Nellis Barnes of Oneida. She died June 5, 1921. In January, 1923, he married Mrs. Nettie B. Jurden of Verona, who survives him. He also leaves three children by his first wife, Dr. Nellis B. Foster of New York and Miss Katherine Foster and T. Stewart Foster of this city, and a brother, Oscar S. Foster of Santa Barbara, Cal.

For Better Prices on Gummed Tape

The Mid-States Gummed Paper Company, 2433-37 South Robey Street, Chicago is sending out an interesting series of miniature letters containing messages to the consuming trade regarding the price of gummed kraft sealing tape. The object of this series of letters is to educate the consumer to pay a decent price to the wholesale paper merchant.

Gummed sealing tape, as it is well known, has been sold at a cut-rate price for so long that the manufacturer has actually been making it at a loss. The Wholesale Paper Merchants have also been realizing practically no profit upon it, so that the whole line has fallen into disrepute. This series of letters shou'd help toward raising the general level of the prices, and to educate the consumer to the real value of tape.

One of these series of letters is in part as follows:

"We believe that the far-seeing buyers want their sources of supplies to make a profit. It gives them a feeling of security that the quality will not be stinted and, secondly, because they know it is good for general business which, in turn, means greater prosperity and profits for the buyer's company.

"It is a notorious fact that the Gummed Tape business has been operating at a loss for a number of years. At one of the recent meeting of the Gummed Tape Association, costs were compared with selling prices and it was found that the Tape industry had lost something like $650,000 during 1925. Several companies went under and any number of them are extremely shaky. The resulting tendency is to cut the quality of the tape or the glue which is rather dangerous in view of the important function Sealing Tape performs in protecting millions of dollars worth of merchandise shipped in containers.

"When one stops to consider the tremendous benefits and service Gummed Tape is giving to the American shipper and the enormous saving which the use of Gummed Tape has brought about, it does seem a pity that the industry rendering this service should be on such an unprofitable basis.

"There are 600 ft. of Tape in a coil of 60 pound Sealing Tape. If a container requires 10 feet of tape, 60 containers could be sealed with one single roll. The cost per container, therefore, is an extremely small item. A case of 3" Tape, containing 160 rolls means a total yardage of almost 100,000 feet—all for the small sum of $72,00.

"We are writing you the foregoing because we believe that (1) the service rendered by Gummed Tape to the American shipper has been underestimated because it has been sold on a price-cutting basis and (2) because we believe that you as a broad-minded organization are interested in seeing the manufacturer and the jobber of Gummed Tape make a reasonable profit so that the quality is upheld to conform with the responsibility which Gummed Tape must shoulder in protecting your merchandise while in transit."

W. P. Beecher Goes With Perseverance Mills

LAMBERTVILLE, N. J., August 30, 1926.—William P. Beecher, of Norristown, Pa., new superintendent of the Perseverance Paper Mills, Inc., took charge of the plant last week succeeding Reginald Woodhead. He already has a force of men at work making changes and improvements.

The company expects to be turning out the best brand of grease proof paper from wood pulp to be used in packing foods, in about two weeks.

Mr. Beecher has been engaged in the paper making business for many years, having been connected with a number of the leading factories throughout the country.

N. P. Robillard, formerly of Jersey City, chief engineer for the company, will remain here in the same capacity that he has occupied for ten months past.

Robert Woodhead and his son, Reginald, who were formerly vice-president and superintendent respectively have severed their connection with the corporation, but plan to remain here temporarily, at least, as they expect to do work for various paper companies in the vicinity of New York and Philadelphia.

Buys Control of Sweet Bros. Paper Mills

PHOENIX, N. Y., August 30, 1926.—Congressman Thaddeus C. Sweet has acquired from H. L. Paddock and the Oswego Falls Corporation the stock in Sweet Brothers Paper Mills, which has taken over the Fulton interests from the estate of Kirk Sweet, who died in Syracuse several years ago. The purchase gives Congressman Sweet and members of his family complete control of the Phoenix mills, which make a fine grade of tissue paper,

Inland Empire Paper Co. Increases Stock

PORTLAND, Ore., August 26, 1926.—When the stockholders of the Inland Empire Paper Company, of Millwood, Wash., increases the capital stock to $2,000,000 as is now planned, the production will also be increased from 2800 tons to 5000 tons. This company makes newsprint. The increase in capital is now under way.

TO CAN *under one management*

THROUGH tremendous economies of production, Saniseals give the jobber a better can to sell the retailer—a sure and steady repeater—at a reasonable price.

A leaky can is expensive to the retailer at any price. The dissatisfaction and loss of one customer, through a cheap but faulty can, quickly wipe out all the apparent price-saving it offered.

Saniseals are *3-ply* cans made of hard-finish board. Their closures are *moulded,* not crimped! The extra protection they give is a real asset to the dealer who uses them—and the jobber who sells them.

These new fibre containers are made by the united organization of two of the most highly regarded and soundly conducted producers of paper products in the industry. The can is right. Our jobber proposition is right. Saniseals are going over. Write for particulars that will interest you.

SMITH - LEWIS FIBRE CAN CORPORATION

753 BOSTWICK ST., LOWVILLE, N. Y.

New York City Baltimore, Md. Cincinatti, O. Cleveland, O.

Coupon

SMITH-LEWIS
FIBRE CAN CORPORATION,
753 Bostwick St., Lowville, N. Y.

DEAR SIRS: Please send sample Saniseal cans and your proposition for jobber cooperation and terms.

*Name*_____

*Address*_____

New York Trade Jottings

Howard Taylor, the well-known paper mill engineers, of Dayton, Ohio, and Montreal, is in town this week.

* * *

George M. McKee, president of the Port Alfred Pulp and Paper Corporation, was a prominent visitor to New York last week.

* * *

J. V. N. Dorr, president of the Dorr Company, engineers, of 247 Park Avenue, New York, has returned to headquarters after a short tour of Europe.

* * *

J. George Burns, formerly with the Seaman Paper Company, and Arthur Halperin, formerly with the Urquhart Paper Company, Inc., have been added to the sales force of the Keith Products Company, Inc., of 417 Lafayette street, New York.

* * *

Green, Low and Dolge, Inc., general paper merchants, have leased 40,000 square feet of floor space in the new building being constructed on the northwest corner of Varick and Charlton streets, and plan to move into their new quarters about November 1.

* * *

The regular weekly luncheon meetings of the New York Division of the Salesmen's Association of the Paper Industry, will be resumed on Monday, September 13, at the Town Hall Club, New York, 12:30 p.m., prompt. Out-of-town members will be cordially welcomed.

* * *

D. A. Crocker, forester, of the American Paper and Pulp Association, 18 East 41st street, New York, attended a meeting of the Wisconsin pulp and paper manufacturers, at Wausau, Wis., last Monday. Mr. Crocker afterwards proceeded to Marquette, Mich., where he represented the American Paper and Pulp Association yesterday at the formal opening of the experimental tract deeded by the Cleveland-Cliffs Iron Company to the United States Department of Agriculture. This tract is to be used as a forest experimental station by the Lake states for conducting experiments in the methods of cutting best suited to the different section of this region. A meeting of the Lake States Forest Experimental Station, at which D. C. Everest is to represent the pulp and paper industry, will take place preceding the ceremony.

* * *

At a dinner held recently in the Unity Club, Brooklyn, 24 of the leading paper box manufacturers of that borough formed a club to be affiliated with the Business Men's Council of the Brooklyn Federation of Jewish Charities. First Assistant District Attorney Geismar pointed out the advantages of forming an organization and the manufacturers organized under the name of the Brooklyn Paper Box Club, and chose the following officers: R. A. Bonime, president; Henry Citron, vice-president; Joseph Rubin, treasurer; Julius Jonas, secretary.

A committee consisting of William F. Ascher, Henry Tarshis and Max Kirshenbaum was appointed to draw up a program of trade matters.

* * *

President Frankel has called a regular stated meeting of the National Association of Waste Material Dealers, to be held at the Hotel Astor, New York, on Wednesday, September 29, at 2 p.m. The meeting will be preceded by an informal members luncheon at 1 p.m. and will be followed by a meeting of the Foreign Trade Division at 3 p.m. There will also be held a meeting of the Board of Directors which is scheduled for 11:30 a.m. the same day. There is a particular reason why the Fall meeting is being held in New York and it is because certain amendments of the Constitution and By-Laws are to be acted upon and these amendments require that the meeting be held within New York State.

Butler Co. in New Quarters in New York

John R. Robinson, organization manager for the Butler paper interests of Chicago, is returning to that city this month, after spending ten months in New York effecting various changes in the Butler activities in the East.

Almost an entire new lineup has been placed in charge of the Butler interests in the East, during Mr. Robinson's stay in New York. His last move was the consolidation of all Butler interests under one roof. In the past, the central buying organization of the Butler Paper Corporations had its eastern office at 522 Fifth Avenue, being housed with the Butler American Paper Company, the Export Division of the widespread Butler activities. The Butler Paper Company, Inc., of New York, the local distributing house for Butler papers, is located at 261-275 Eleventh avenue, and it is to this office that the other two departments have been moved.

All three companies should be addressed at 261-275 Eleventh Avenue, corner of 27th street, New York. Telephone Chickering 1600.

Longview Fiber Co. Completes Organization

LONGVIEW, Wash., September 3, 1926.—Organization of the Longview Fiber company, which will construct a $2,500,000 pulp and pulp products plant here, has been completed, with M. A. Werthiemer, president of the American Lakes Paper company, Chicago, and the Thillman Pulp & Paper Company, Kaukauna, Wis., as chairman of the board of directors; H. L. Wollenburg, president; D. C. Everest, president of the Ontanagan Fiber company, Ontanagan, Mich., vice-president; M. T. Kay, secretary-treasurer; A. K. Salz, assistant secretary-treasurer; G. J. Sansbury, assistant secretary-treasurer, all of whom are directors, and R. S. Wertheimer, J. D. Tennant, Longview, and Myron C. Woodard, president of the Silver Falls Lumber company, Silverton, Ore, directors.

Bids for the construction of a paved road to the mill site of 180 acres on the Columbia river were received last week and the contract will soon be awarded, as will the contract for filling the mill site.

Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 8th, 1926.—The Allied Paper Mills have been awarded he contract for furnishing the Government Printing Office with 40,350 pounds (150,000 sheets) of 38 x 48-269 pounds, single coated both sides book paper at 8.09 cents per pound. The Whitaker Paper Company will furnish 10,000 pounds of No. 2 kraft wrapping paper in 39 inch rolls at 5.5 cents per pound. Bids for both of these items were received on August 20.

Barton, Duer & Koch Company will furnish 6,350 sheets (635 pounds) of 21 x 32-100 pound, white safety paper at 30 cents per pound, bids for which were received on August 23.

Seven American Writing Paper Mills for Sale

The Gibbs-Brower Company, paper and pulp mill brokers, of 261 Broadway, New York, and 166 West Jackson street, Chicago, are offering for sale, as exclusive agents of the American Writing Paper Company, of Holyoke, Mass., seven of their paper mills, now available following the reorganization of their company, as follows:

Riverside Paper Company, Divisions 1 and 3, at Holyoke, Mass.; Agawam Paper Company, Divisions 1 and 2, at Mittineague, Mass.; Chester Paper Company Division, at Huntington, Mass.; Hurlbut Paper Manufacturing Company Division, at South Lee, Mass., and Oakland Paper Company Division, at Manchester, Conn.

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100% Record

for Blaw-Knox Forge and Hammer Welded Soda Pulp Digesters. None have ever failed. ¶ Because Blaw-Knox Digesters are annealed in one piece, strains due to process are eliminated, and further assurance against failure is created. ¶ All Blaw-Knox Digesters are designed to conform with the A.S.M.E. Code, and are therefore insurable. ¶ Write for your copy of the Blaw-Knox Forge and Hammer Welding Catalog.

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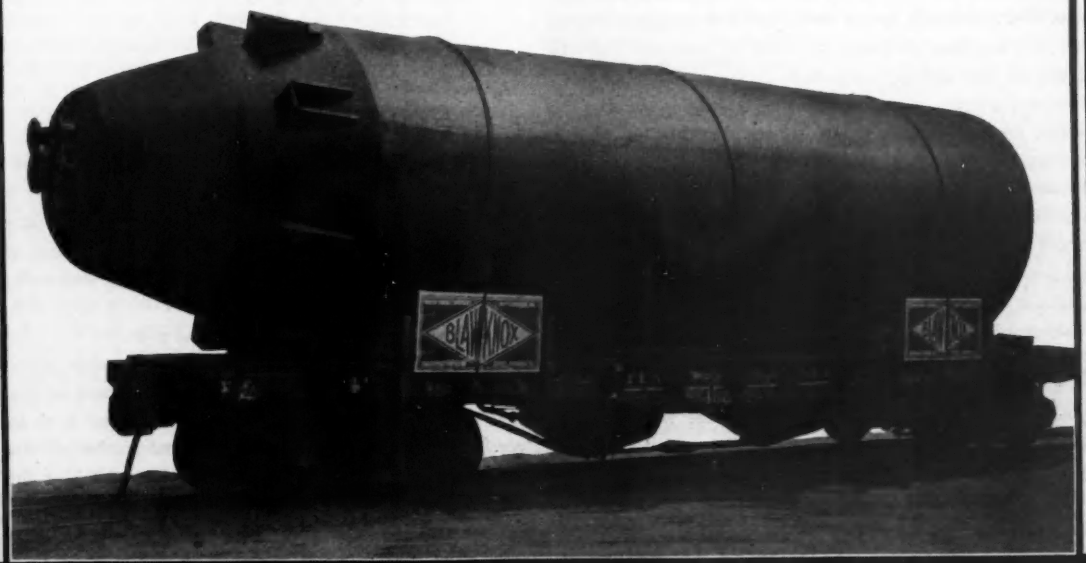

BLAW-KNOX

PAPER TRADE JOURNAL
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The Magazine of the Paper Industry
HENRY J. BERGER, Editor
Member A. B. C. Audit Bureau of Circulations
Vol. LXXXIII New York, September 9, 1926 No. 11

BUSINESS ESSENTIALLY SOUND

Probably the most significant feature of current business reports is the accumulating evidence that the general industrial and commercial recession which is an almost invariable occurrence in the summer months, and which in the last few years has been especially marked, has hardly been noticeable this season, says the Guaranty Trust Company of New York. Especially impressive in this connection is the trend of activity in the iron and steel industry. In recent weeks the industry has continued to operate at high levels, and market conditions have remained exceptionally favorable.

The volume of building construction undertaken continued to decline moderately last month. It must be remembered, however, that a decrease in July is in line with the usual seasonal tendency. A more trustworthy indication of the trend of the industry is seen in the fact that since early spring the rate of increase as compared with last year has been declining, and that in June and July the level of activity was actually lower than a year ago.

If, as some observers assume, the peak of activity in building has been passed, there is nothing in the present situation to occasion great concern. If not now, then in the near future, a decline from the abnormal rate of the last few years is inevitable. Such reactions as may fall on business in general from this decrease must be regarded as a return to normal, and will be minimized by a slow and gradual recession such as we have witnessed in the last few months.

The volume of distribution, as indicated by check payments and freight traffic, continues to exceed that of a year ago by a very comfortable margin. Bank debits to individual accounts in 140 centers, not including New York, in the first three weeks of August were 6 per cent. larger than in the similar period last year. Railway freight loadings in the first two weeks of August continued well above the million-car mark, and exceeded last year's corresponding total by 76,352 cars.

In foreign trade, the principal feature of last month's operations was the reappearence of a substantial export balance. Both exports and imports were considerably larger than a year ago. Another fairly large inflow of gold was recorded last month. The inflow of the metal since the beginning of this year has been nearly constant, April and May being the only months in which shipments exceeded receipts.

The advance in stock prices continued through the first half of the month, but has encountered increasing resistance in the last two weeks. There has been no pronounced decline, however. Railroad and leading industrial stocks, in which the greatest strength has been displayed, have resisted the effects of rather heavy selling, and remain near the peak.

While the strength of the market bears witness to the general spirit of optimism in business, it inevitably raises the question whether a situation similar to that of last winter is likely to arise. Some of the price averages indicate a level of quotations at least as high as that which preceded the sharp break six months ago. The volume of bank credit based on security collateral, while it has increased considerably, nevertheless shows that the technical position of the market is somewhat stronger than it was at that time. It must be remembered, moreover, that there have been numerous increases in dividends in recent months, and that these have materially raised the average rate of yield on market values.

The action of the Federal Reserve Bank of New York in advancing its rediscount rate on August 12 from 3½ to 4 per cent had comparatively little effect on the course of financial markets. The disposition which has been apparent in the recent past to assume that the discount rate policy of the Federal Reserve system is directed at the stock market has partly disappeared. The slight stiffening of money rates in the last few weeks, the approaching peak of seasonal demand for credit and the fact that the rate of the New York bank has been below the level for the system as a whole afford adequate explanation for the change. There is no reason to suppose that the officials of the bank regard the present volume of rediscounting as abnormal or that any pronounced tightness in the money market is foreseen.

The level of commodity prices has continued to decline consistently, and now stands at the lowest point recorded in nearly two years. In the light of recent movements, the course of general prices appears as a fairly regular decline extending over a period of six months, broken by an upward trend in May and early June.

ADVANCE IN POWER EQUIPMENT

The Institute of Politics at Williamstown devoted a large amount of time and discussion to the relation of power to the industrial growth of nations and its importance as a factor in industrial relations. Statesmen and politicians are now giving the attention it deserves to a matter that has long been understood by engineers and manufacturing executives.

The tremendous influence of plentiful power on the industrial life of the United States is attested by the tremendous growth in the one really national exposition of power equipment in this country, that was held at the Grand Central Palace, New York City. The coming National Exposition of Power and Mechanical Engineering which will be held from December 6 through 11, is the fifth in the annual series.

Each year the exhibitions have grown in scope, size and attendance. The Show is now eagerly anticipated as the one opportunity for engineers and industrial leaders to view the latest developments in a rapidly advancing art and science. At the next exposition four floors of the Grand Central Palace will be taken up with outstanding exhibitions of all types of mechanical equipment

including power generating, power using, and mechanical power transmission devices.

450 manufacturing firms will be represented by interesting showings of important machines and apparatus in use throughout industry. In addition to the established selections of the Exposition devoted to power and heat generating devices that have been so popular during the last four years, two special sections are receiving attention during the coming year, that devoted to heating and ventilating equipment with 120 exhibits, and that devoted to mechanical power transmission equipment with about 60. The section of Tools, Machine Tools and Shop Equipment grows rapidly, increasing in size over that in the last exposition.

During the week of the Exposition, two important technical meetings will be held, one by The American Society of Mechanical Engineers and one by the American Society of Refrigerating Engineers. The meeting of the mechanical engineers will last four days from December 6 through 9, and will be made up of twenty-five sessions of excellent technical papers held at the Engineering Societies' Building. The refrigerating engineers will meet at the Hotel Astor from December 7 through 9. The sessions of both meetings are arranged to give those attending an opportunity to visit the Power Exposition.

The Exposition is under the management of the International Exposition Company, Charles F. Roth and Fred W. Payne managers, with offices in Grand Central Palace, New York.

Shipping Paper By Champlain Canal

GLENS FALLS, N. Y., September 9, 1926.—Paper shipments by way of the Champlain Barge canal during recent weeks have shown an enormous increase over the early months of the navigation season and indications are that the present season will see a new record set in the volume of paper products going through the canal. News print shipments from Canadian mills coming through Lake Champlain and the Champlain Canal consigned to New York City and nearby points are especially heavy. A large percentage of these news print shipments are from the Canadian mill of the International Paper Company.

The International Paper Company follows a policy of shipping its products by water wherever possible and in this way a large savings is effected in transportation costs. Not only does the I. P. Company use the water route in shipping from its Canadian mills but the policy is followed also in its Northern New York mills, particularly those in Fort Edward and Glens Falls. The Fort Edward mill uses the Champlain canal almost entirely receiving most of its raw materials by this route and shipping the finished product by barge. Special machinery has been installed at the canal terminal in Fort Edward for the handling of wood pulp and manufactured stock.

The I. P. Mill in South Glens Falls also uses the canal although located a considerable distance from the nearest terminal. Practically all of the news print produced in the Glens Falls mill is transported by auto truck to the canal terminal in Hudson Falls where it is loaded into barges for shipment to New York City and other Metropolitan points. The haul from the Glens Falls mill is a rather lengthy one but even with the added cost of the long haul it is said a considerable saving is effected over shipments by rail.

West Virginia Opens Sales Office in Philadelphia

PHILADELPHIA, Pa., September 6, 1926.—The West Virginia Pulp and Paper Company is not now selling its paper through its former distributors, Lindsay Brothers, but announces the opening of a sales office in the Public Ledger Building, Sixth and Chestnut streets, under the management of George M. Howarth, for direct service to the Printing and Publishing Trades. In addition to direct mill business, a complete line of WESTVACO Brands will be carried in warehouse.

Forest Fires Worst in Years, Says Forester

Dispatches just received by The American Forestry Association from its forester, Shirley W. Allen, emphasize the extremely hazardous fire conditions in the far West.

"Not since 1910," says Mr. Allen, "has the Pacific coast been faced with more dangerous fire conditons that the present season has brought, and it is generally agreed that without splendid advances in fire protection methods, losses would exceed those of the worst years in the past.

"A toll of two lives, one entire community and an astounding amount of equipment are grim evidence of what carelessness and lightning can do against the efforts of fire fighters.

"Two things stand out, however, from which some encouragement may be drawn. The first is a comparatively small loss of merchantable timber for the total area burned and second the large proportion of lightning fires as against those caused by human carelessness.

"The greatest loss to merchantable timber has occurred on the National Forests while losses of equipment have mounted on private lands.

"Almost 3,000,000 acres of National Forest land on the Pacific Coast is closed to use this season and this area may be increased if low humidity conditions continue."

Commenting on the situation, Ovid M. Butler, Secretary of The American Forestry Association, said, "Although rain throughout the northern Rockies has for a time reduced the critical hazard somewhat, with part of September and all of October ahead of us it is still too early to predict the full extent of our national losses. To date the expenses for fire suppression on the National Forests alone are nearly three times as great as for the corresponding period of 1925. Telegraphic advices indicate that worse atmospheric conditions have never been known."

The destruction seems to be greatest in Montana and northern Idaho. The fires increased in size to such an extent that the ranks of fire fighters had to be augmented with troops from Fort Missoula in fighting a fire on the Blackfeet and from Fort George Wright at Spokane, Washington, to assist in fighting the fires on the Kaniksu.

May Build Pulp Mill at Toledo, Ore.

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., August 27, 1926.—A $3,000,000 project to include a pulp mill is being considered by citizens of Toledo, Ore. Joseph H. Rowan, engineer of the Delta Engineering company is waiting action by the chamber of commerce of that city, which body is expected to raise half of $25,000 to make a preliminary survey, outline of which Mr. Rowan has submitted. The Delta company state that there is strong financial backing available as soon as the survey is completed, and it is said that this company has offered an ironclad agreement and guarantee that the pulp mill will be completed if the citizens of the district display interest. The project would include a water system to the Siletz river and a hydro-electric plant to furnish power for the mill.

Backs Paper Mill for Lewiston

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., September 3, 1926.—C. J. Breir, prominent in the business world of the northwest as a chain store operator, is backing a movement to have a new paper mill established at Lewiston, Idaho, his home city. He has made a thorough investigation of the paper mill industry and because of the success met by citizens of Bellingham, Wash., in forming a company there for paper manufacture, Mr. Brier expects to do the same thing in Lewiston.

Uncle Jake says

I have no time to quarrel with the mistakes of my past; there is a long road ahead of me.

I have learned from observation that the average man is as old as his worries and so I say, don't worry because of what you have lost by not using

K. V. P. Bond Paper

(for all printing, writing and typewriter uses) but see to it that from now on you will be served by nothing but the best in paper, viz. K.V.P. Bond.

Uncle Jake
of the
KALAMAZOO VEGETABLE PARCHMENT CO.
KALAMAZOO, MICHIGAN

High Grade Bleached Sulphite Wood Pulp

RIORDON SALES CORPORATION LIMITED
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Section of the

Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G.MacNAUGHTON, Secretary

Official Paper Testing Methods

Of the Technical Association of the Pulp and Paper Industry

During the past year the Paper Testing Committee has been engaged in revising the paper testing methods. Thus far nine of the methods have been revised and are presented as official TAPPI methods.

The members of the Paper Testing Committee are as follows: B. W. Scribner, Chairman, Allen Abrams, G. R. Alden, A. L. Allen, T. C. Bentzen, A. E. Bachmann, E. A. Bergholtz, H. E. Brakewood, O. W. Callighan, T. L. Crossley, T. H. Grant, C. S. Gravatt, R. C. Griffin, H. H. Hanson, H. U. Kiely, C. E. Libby, C. L. Lufkin, G. J. Manson, F. A. Milan, H. L. Peckham, A. T. Randall, E. O. Reed, W. O. Roe, R. H. Savage, R. H. Simmons, H. A. Smith, R. H. Stevens, Edwin Sutermeister and P. F. Wehmer.

Official Method of Sampling Paper for Testing

I. TEST SAMPLE:

The test sample, unless otherwise specified, shall consist of sheets at least 11 x 11 inches in size, and having a total area of not less than 1500 square inches. The sample sheets shall be kept flat, free from wrinkles and folds, and protected from exposure to liquids, direct sunlight and other harmful influences.

II. METHODS OF SAMPLING:

Not less than 10 per cent of the total number of units, (rolls, cases, frames or bundles, etc.), composing a lot of paper shall be sampled if the lot consists of not more than 100 units. If the lot consists of more than 100 units, not less than 5 per cent of the total number of units shall be sampled. The sample sheets shall be so selected from the different units that they will be representative of the entire lot of paper.

The samples shall be taken as follows:

1. From rolls.—The sample sheets shall be taken from the first unharmed layer of each roll.

2. From cases, frames and bundles.—The sample sheets shall be taken from the top and center of each case, frame or bundle sampled.

The sample sheets shall be so cut that their edges are exactly parallel with the machine and cross direction of the paper.

III. RESAMPLING:

In case of necessity for resampling a lot of paper, the samples shall be taken as described above, except that the paper sheets shall be taken from different units than those previously sampled. If the identity of the original units is lost, and the paper is not in rolls, cases, frames, or bundles, the whole lot shall be so sampled that all the different components of it will be represented by the test sample.

Official Method for Determining Fiber Composition of Paper

I. APPARATUS:

A microscope capable of giving not less than 100 diameters magnification is necessary for determination of fiber composition. It should be of the compound type and have a mechanical stage.

II. SPECIMEN:

1. Composition—The specimen for test shall consist of pieces having a total area of not less than 6 square centimeters (1 square inch) cut from different portions of the test sample.

2. Preparation for Examination—Place the specimen in a small breaker and completely cover it with a 0.5 per cent caustic soda or caustic potash solution, heat to boiling, transfer the contents of the beaker to a small 200 mesh metal sieve and wash thoroughly with water. Roll the moist pieces of paper into a ball and work between the fingers to loosen the fibers. Transfer to a test tube and shake until the fibers are completely separated. Pour a portion of the mixture into a second test tube and dilute to a fiber concentration of about 0.1 per cent. Transfer the fibers to a microscope slide by means of a dropper consisting of a glass tube 20 cm (6 in.) long and 6 mm (¼ in.) internal diameter, fitted at one end with a rubber bulb. Thoroughly mix the fibers and water, quickly insert the dropper into the mixture 5 cm. (2 in.) below the surface, expel two bubbles of air from the dropper, then fill the tube to a distance of about 13 mm. (½ in.). Transfer the contents of the dropper to the slide, making 4 drops, completely emptying it (1). Repeat this procedure until the slide is uniformly covered with drops of the mixture, then place the slide in an air-bath until dry. Add stain as specified in Section III-2 to the dried fibers and press down on them a second slide or large cover glass. Remove excess moisture from the edges of the slides with absorbent paper. One slide shall be sufficient for ordinary determinations. In case of dispute not less than 3 slides shall be examined.

III. METHOD:

1. Methods of Observation.—A. Official. The prepared slide shall be examined microscopically, observations being made at various points in a straight line, twice lengthwise and four times crosswise of the slide, each line of the observations starting at a different point. A magnification of not less than 100 diameters shall be used. A magnification of 100 diameters is desirable as with lower magnification it is difficult to observe the characteristic structure and shape of the fibers, both of which aid materially, in addition to the color developed by the stain, in identifying the fibers. The number of each kind of fiber present in at least 25 different fields and a total of not less than 200 fibers shall be counted, using the diameter of the field as observed through

TECHNICAL SECTION, PAGE 85

the microscope as the unit of measurement. The amount of each kind of fiber present shall be computed as a percentage of the total fiber composition.

B.—Tentative. (2) To avoid the undesirable personal equation involved in estimating the relative sizes of the fibers, the following method of counting is recommended for trial with the view of future adoption as the official method if found satisfactory. A round microscope cover glass at whose center is a very small black spot (point,) or the intersection at right angles of fine lines or cross-hairs, shall be placed on the diaphragm of the eye piece. The slide shall then be moved across the field of view, and each fiber, or part of a fiber, which passes directly under the spot shall be counted. If the fibers are long, some may pass under the spot more than once during the count, but they shall be counted each time, regardless of the number of times they pass under the spot.

2.—Stains. A. For all purposes except as specified below, either the Herzberg or the Sutermeister stain shall be used. These shall be prepared and used as follows:

(a) Herzberg (3)—Prepare the following solutions:

(A) An aqueous solution of C. P. zinc chloride saturated at 70° F.

(B) 0.25 g. of C. P. iodine and 5.25 g. C. P. potassium iodide dissolved in 12.5 cc. of distilled water.

Mix 25 cc. of solution (A) measured at 70° F., with solution (B). Pour into a narrow cylinder and allow to stand until clear. Decant the supernatant liquid into an amber colored, glass-stoppered bottle and add a small piece of iodine to the solution. Thoroughly moisten the fibers with this solution and remove the excess with blotting paper. The solution should be tested with known fibers and readjusted if necessary by addition of either zinc chloride or iodine. The following colors are developed by this stain.

Red—Linen, cotton, bleached manila hemp.

Blue—Chemically prepared fibers low in lignocellulose, from wood, straw and esparto.

Yellow—Fibers high in lignocellulose such as ground wood, jute, and unbleached manila hemp.

Sutermeister (4)—Prepare the following solutions:

Solution (A)—1.3 g. iodine and 1.8 g. potassium iodide dissolved in 100 cc. of water.

Solution (B)—A clear, practically saturated solution of calcium chloride.

In using this stain, apply solution (A) after moistening the fibers with water, allow to remain about 1 minute, remove the excess by blotting and then add solution (B).

The colors developed by the Sutermeister stain are, in general:

Red or brownish red—Cotton, linen, hemp, ramie.

Dark Blue—Bleached soda pulps from deciduous woods.

Bluish or reddish violet—Bleached sulphite fibers and thoroughly cooked unbleached sulphite fibers.

Greenish—Jute, manila hemp and the more lignified fibers in unbleached sulphite.

Yellow—Ground wood.

(b) Lofton-Merritt (5)—This stain shall be used for differentiating between unbleached sulphate (kraft) and unbleached sulphite fibers. It shall be prepared as follows:

Solution (A)—Malachite green, 2 g.
Water 100 cc.

(B)—Basic fuchsine 1 g.
Water 100 cc.

These shall be mixed in the proportion of 1 part (A) to 2 parts (B). As dyes from various sources vary it is necessary to test them by staining known fibers. Unbleached sulphate fibers are stained blue or blue-green and unbleached sulphite fibers purple or lavender. If any purple fibers appear in unbleached sulphate fibers, this indicates there is too much fuchsine present and more malachite green solution must be added. The opposite is indicated if some unbleached sulphite fibers develop a green or blue color.

The Lofton-Merritt stain shall be used as follows: Add the compound stain to the fibers and allow to remain 2 minutes. Remove excess stain by means of a hard filter paper and add a few drops of 0.1 per cent hydrochloric acid. After about 30 seconds remove the excess acid. Next add a few drops of distilled water and remove the excess.

(c) Bright Stain (6)—This stain shall be used for differentiating between bleached and unbleached fibers. The solutions required are:

(A) 2.7 g. ferric chloride ($FeCl_3 6H_2O$) per 100 cc. distilled water.

(B) 3.29 g. potassium ferricyanide ($K_3Fe(CN)_6$) per 100 cc. distilled water.

(C) 3 g. of crude (not treated with sodium carbonate) substative red dye per 500 cc. of distilled water. The dye used shall be Dupont Purpurine 4 B. Concentrated, or its equivalent.

These solutions must all be made with cold water.

Filter solutions (A) and (B) and keep in separate stock bottles at a temperature not exceeding 20° C. Make solution (B) freshly each day it is used. For staining use tall narrow beakers, suspending the microscope slides in the beakers from clamps. Mix 10 cc. each of solutions (A) and (B) in one beaker and add an equivalent amount of solution (C) to another beaker. Set the beakers in a water bath, the temperature of which must be maintained constantly within ±1° of 20°C. Place a thermometer in the stains. When their temperature is 20°C, dip the slide containing the dry fibers in distilled water to moisten it uniformly (so that no air bubbles will be formed when it is stained), then place the slide in stain (A-B) and allow it to remain 20 minutes. Wash by dipping in distilled water 6 times then renew the water and repeat the washing process. Dry the contents of the slide and repeat the processes of moistening, staining, washing and drying, using the (C) stain. It is desirable to fix the top glass on the fibers with a drop of balsam.

The colors developed by the Bright stain are:

Red—Bleached fiber or fibers practically free from lignocellulose.

Blue—Unbleached fibers or fibers containing lignocellulose.

IV. REPORT:

The proportion of the various fibers found shall be reported in terms of percentages of the total fiber composition, to the nearest 5 per cent. The following nomenclature which covers the fibers commonly dealt with shall be used in reporting results: Chemical wood fiber; chemical deciduous wood fiber; chemical coniferous wood fiber; groundwood fiber; manila fiber; jute fiber; rag fiber; linen fiber; cotton fiber; esparto fiber; straw fiber.

V. REFERENCES:

1. Microscopic Paper Fiber Analysis, G. K. Spence and J. M. Krauss, Paper, Vol. 20, No. 11, p. 11, May, 1917.
2. Suggested by H. T. Case, Sears Roebuck Co.
3. Papier Prufung, Welhalm Herzberg.
4. Chemistry of Pulp and Paper Making. E. Sutermeister, p 390.
5. Method for Differentiating and Estimating Unbleached Sulphite and Sulphate Pulps in Paper, R. E. Lofton and M. F. Merritt, Technologic Paper No. 189, U. S. Bureau of Standards.
6. Microscopy of Paper Fiber, C. G. Bright, Paper Vol. 20, No. 25, p 11, Aug. 29, 1917. As modified by the author.

Official Method of Conditioning Paper for Testing

I. RELATIVE HUMIDITY AND TEMPERATURE:

Whenever required in the test method, the paper sample shall be conditioned and tested in an atmosphere maintained at 65 per cent relative humidity and 21°C (70°F) temperature. A tolerance of plus or minus 2 per cent in relative humidity II (63-67%) and of plus 5°C (9°F) in temperature is permissible.

II. CONDITIONING:

Each specimen of the paper sample, after preparation for application of the test as specified in the test method, shall be so suspended that the conditioning atmosphere will have free access to all surfaces. Means shall be provided for so circulating the air of the conditioning and testing chamber that its humidity and temperature will be uniformly maintained. The conditioning time shall be sufficient for the moisture content of the specimen to attain equilibrium with the conditioning atmosphere, this to be determined by conditioning to constant weight, weighing at intervals of not less than ½ hour.

Note:—A conditioning period of 2 hours is usually sufficient for papers of ordinary weight and composition. Some papers, however, such as boards and certain specialties made water resistant, may require much longer periods.

III. DETERMINATION OF HUMIDITY AND TEMPERATURE:

The relative humidity of the conditioning atmosphere shall be determined by means of either (1) a sling psychrometer, or (2) a stationary type of psychrometer having the air circulated over the thermometer bulbs mechanically. In both cases, the circulation of air around the thermometer bulbs must be at the rate of not less than 3 meters, (10 feet) per second. When the sling type is used, care must be taken to make the readings as quickly as possible after bringing it to rest.

The thermometers used for determining humidity and temperature must be accurately calibrated by comparison with certified standard thermometers and any corrections found necessary applied to the readings.

Note:—It is recommended that thermometers approaching as closely as possible to the following specifications be used: Range 0°C (32°F) to 50°C (122°F); graduations, 0.2°.

Official Method of Determining the Bursting Strength of Paper

I. APPARATUS:

The testing instrument shall consist of (1) a circular aperture 31.5 mm. (1.24 in.) in diameter in a plane surface, the aperture registering exactly with a similar aperture in a second plane surface. One aperture shall communicate with a hydraulic chamber and the other shall be movable along the axis passing through the centers of the two apertures. (2) Means of firmly clamping the two plain surfaces together. The clamping pressure and the extent of the contacting plane surfaces shall be such that there shall occur no slipping or creeping during the test of a specimen clamped between the plane surfaces and no injury to the specimen so clamped. (3) A rubber diaphragm firmly secured to the inner side of the aperture in the hydraulic chamber so as to close it off and expand through it when hydraulic pressure is applied. (4) Means of applying hydraulic pressure through a noncompressible fluid to the rubber diaphragm. (5) Means of accurately and continuously registering the pressure maintained in the hydraulic chamber, the bourdon tube pressure gage being preferred.

II. SPECIMEN:

Specimens for test shall be so selected from a sample secured by the official sampling method, representative of the sample.

III. METHOD:

The specimen shall be firmly clamped in position and pressure applied within the hydraulic chamber at a uniform rate such that the noncompressible fluid shall be displaced against the rubber diaphragm and through the aperture at a rate of 75 cc. per minute* until the paper bursts. The gage used must be such that the bursting strength of the paper tested will not be greater than ¾ of its capacity, nor less than ¼ of its capacity. The gage reading shall be recorded to the nearest 2 per cent of the total reading. At least 10 bursts shall be made, each of a different specimen of the sample and an equal number from each side of the specimen. Bursting strength tests shall be made on specimens conditioned according to the official method for conditioning, and in the atmospheric conditions therein specified.

* This rate is equivalent to turning the hand wheel of the ordinary type of bursting strength paper tester at a rate of 120 r.p.m.

IV. CALIBRATION:

The instrument shall be calibrated at intervals of not more than thirty days. The calibration shall be performed as follows: The gage shall be removed and calibrated in a horizontal position with a deadweight gage tester of the piston type. A record shall be kept of any deviations from the indicated readings and corresponding corrections made in test results secured with the gage. The gage shall be replaced and the pressure chamber refilled with sufficient glycerine to leave the rubber diaphragm, when placed in position, slightly depressed, taking care to eliminate all air bubbles. The rubber diaphragm shall be renewed at least every thirty days.

V. REPORT:

The report shall include the average, the minimum and maximum test results. The readings of the gages shall be reported to the nearest 2 per cent of the total reading and shall be expressed as "points."

Official Method for Determining the Tensile Breaking Strength of Paper

I APPARATUS:

The instrument shall consist of, (1) two clamps whose centers shall be in the same plane parallel with the direction of motion of the stressing clamp and so alined that they will hold the test specimens wholly in one plane. (2) a pendulum so attached to one clamp as to accurately balance the load applied to the test specimen, (3) a device attached to the pendulum to indicate on a graduated scale the breaking load of the test specimen, (4) a scale graduated in weight units (preferably metric) which may be read to an accuracy of not less than 0.2 per cent of the total reading and (5) a means of moving the stressing clamp at a uniform rate. The machine shall preferably be power driven.

II. SPECIMENS:

Specimens for test shall be cut accurately in each principal direction of the paper, not less than 12.7 mm. (0.5 inch) nor more than 25.4 mm. (1 inch) wide, and not less than 140 mm. (5.5 inches) in length. The edges of the specimens must be clean cut and parallel to the opposite edges. The specimens must be accurately cut to the predetermined width. They shall be so selected from the sample secured by the official sampling method as to be representative of the sample.

III. METHOD:

The ratio of the clearance distance between jaws to the width of the specimen shall be not less that 5.1, nor more than 12.1. The test specimen shall be firmly clamped squarely in the jaws of the clamps and the stressing jaw then operated at a speed of 30.5 cm. (12 inches) per minute until the specimen breaks. The breaking load shall be recorded to the nearest 2 per cent of the total indicated reading. The tester shall be of such capacity that the tensile strength of the paper tested will be not greater than 90 per cent, nor less than 10 per cent of the capacity of the tester. Not less than 10 strips cut in each principal direction of the paper shall be tested. All the readings obtained when the paper breaks at or in the jaws shall be rejected. Tensile strength tests shall be made on paper conditioned according to the official method, and in the atmospheric conditions therein specified.

IV. CALIBRATION:

The machine shall be accurately leveled in both of the principal directions. The stressing clamp shall be displaced or removed and accurate weights corresponding to various divisions of the scale markings shall be suspended from the pendulum actuating clamp. The weights shall be held at the start and released slowly so that the pendulum is actuated at a rate similar to that specified above and other conditions must simulate the paper testing conditions as closely as possible. A record shall be made of deviations from the scale readings and corresponding corrections shall be made in the test results. The machine shall be calibrated at intervals of not more than 30 days.

V. REPORT:

The result shall be reported in kilograms per 15 mm. width to

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the nearest 2 per cent of the total reading. The average, maximum and minimum tensile strength for both of the principal directions of the paper shall be reported. The report shall include the width of the specimen in millimeters.

Official Method for Quantitative Determination of Paraffin in Paraffined Paper

I. APPARATUS:

A suitable extraction apparatus such as the Soxhlet or the Underwriter's is required for this determination.

II. SPECIMEN:

The test specimen shall consist of not less than 1 gram of paper obtained by cutting strips approximately ½ inch wide from the sample in such a way as to be representative of it.

III. METHOD:

Weigh the air-dry paper to an accuracy of 1 centigram. Fold the strips into numerous crosswise folds, and place them in the siphon cup of the extractor. Extract with carbon tetrachloride (CCl_4) at least 5 times and more if found necessary. Remove the paper and determine its air-dry weight. The difference between the original weight of the paper and its weight after extraction shall be regarded as the amount of paraffin present.

IV. REPORT:

The paraffin content shall be expressed as a percentage of the air-dry paper to the nearest 1 per cent.

Official Method for Quantitative Determination of Active Sulphur in Paper

I. APPARATUS:

The special apparatus required for this determination consists of a 500 cc. round-bottom distillation flask having a neck about 5 cm (2 in.) long and 2.5 cm (1 in.) in diameter, and a tube 10 cm (4 in.) long so connected to the mouth of the flask that all gases generated in the flask will pass through a filter paper clamped between the mouth of the flask and the end of the tube, and then out through the tube.

The balance used for weighing shall be sensitive to 1 mg.

II. SPECIMEN:

The specimen shall consist of 0.25 g. of air-dry paper either ground or thoroughly disintegrated by shaking in water.

III. REAGENTS:

Small pieces of C. P. stick zinc, free from sulphur and arsenic, activated as follows. Cover the zinc with a C. P. copper sulphate solution in the proportion of 10 cc of copper sulphate solution, containing 0.002 g. copper, to 1 g. of zinc. After allowing to stand a few minutes for deposition of the copper, wash the zinc with distilled water until free from zinc sulphate. The zinc can be reactivated several times.

Concentrated C. P. hydrochloric or phosphoric acid, free from sulphur and arsenic.

C. P. Lead acetate, 10 per cent solution.

C. P. Sodium thiosulphate, 0.001 per cent solution.

Sulphur—free surgical absorbent cotton prepared by boiling in a dilute solution of sodium hydroxide and washing thoroughly with distilled water.

IV. METHOD:

Transfer the weighted specimen to the distillation flask with 20 cc. of distilled water and add approximately 2 g. activated zinc cut in small pieces, and 10 cc of concentrated hydrochloric or phosphoric acid. Insert in the neck of the flask a loose wad of surgical absorbent cotton about 4 cm. (1½ in.) long. Clamp between the mouth of the flask and the tube a hardened filter paper (such as Schleicher and Schuls' No. 575) which has been freshly moistened with a 10 per cent solution of lead acetate. Place another wad of absorbent cotton in the tube above the filter paper. Prepare flasks under duplicate conditions containing in place of the paper under test, pure, sulphur-free cotton and measured amounts of sodium thiosulphate solution. Set all the flasks in a steam bath for 1 hour, frequently agitating the contents. Remove the filter papers and allow them to air-dry. The per cent of sulphur present is found by comparing the depth of the color developed by the sulphur from the specimen with that developed by the known amounts of sulphur evolved from the thiosulphate solutions.

As 0.000001 g. sulphur will give a distinct stain, care must be taken to protect the paper under test from contamination. It must be protected from atmospheric fumes and should not be handled with the bare hands.

V. REPORT:

The amount of sulphur shall be reported as a percentage of the air-dry paper.

Note: In respect to the tarnishing effect of sulphur, a paper containing not more than 0.0008 per cent of sulphur is required for wrapping silverware.

Reference: Chemistry of Pulp and Paper Making, Edwin Sutermeister, p. 422.

Official Method for Determination of Amount of Coating of Mineral Coated Paper

I. APPARATUS:

No special apparatus is required for this determination.

II. SPECIMEN:

The specimen for test shall consist of a piece of the sample cut exactly 5 x 13 cm (2 x 5 inches).

III. METHOD:

Obtain the air-dry weight of the specimen. Place the specimen in a flat bottom tray and pour over it a warm 5 per cent solution of hydrochloric acid. After a few moments pour off the excess acid and add a warm 5 per cent solution of ammonia, moving the paper around so that the solution comes in contact with all parts of it. After this treatment has continued for a few minutes, place the paper on a pane of glass and brush off the coating with a camel's-hair brush, taking care not to dislodge any of the paper fiber. After the coating is entirely removed, stand the glass pane at a slight angle and wash the paper by means of a wash bottle, holding the paper on the glass by one corner. Dry the specimen and obtain the air-dry weight. The difference between this weight and the original weight of the specimen is the amount of coating material present. Not less than two determinations shall be made, and the average of these computed.

IV. REPORT:

The amount of casein coating shall be reported, (1) as a percentage of the de-coated air-dry paper and, (2) as pounds per 500 sheets of the de-coated air-dry paper, 25 x 40 inches in size. The weight of the de-coated air-dry paper on this same weight basis, shall also be included in the report.

V. REFERENCE:

Suggested by Edwin Sutermeister.

Official Method for Quantitative Determination of Resin in Paper

I. APPARATUS:

A suitable extraction apparatus such as the Soxhlet or the Underwriter's is especially required for this determination. In addition, if glue or other nitrogenous sizing agents are present, two 300 cc. separatory funnels are necessary. The balance used shall be sensitive to 1 mg.

II. SPECIMEN:

The test specimen shall consist of not less than 5 grams of paper obtained by cutting strips approximately ½ inch wide from the sample in such a way as to be representative of it. It is recommended that the specimens be shredded or ground.

III. METHOD:

Obtain the air-dry weight of the specimen. If the paper is not shredded or ground, fold the strips into numerous crosswise folds and place them in the siphon cup of the extractor. Extract with acidulated alcohol, (95 per cent alcohol—90 per cent, glacial acetic acid—0.5 per cent, water 9.5 per cent by volume) siphoning at least 12 times or as many more as may be necessary until the solvent siphons over colorless. If nitrogenous sizing agents are present, they must be separated from the resin as follows, this not being necessary in absence of such materials: wash the alcoholic extract of rosin, which may contain foreign

material, into a beaker and evaporate to a few cc. on a steam bath. Cool, take up in about 25 cc. of ether, transfer to a 300 cc. separatory funnel containing about 150 cc. of distilled water to which has been added a small quantity of sodium chloride to prevent emulsification, shake thoroughly and allow to separate. Draw off the water into a second separatory funnel and repeat the treatment with a fresh 25 cc. portion of ether. Combine the ether extracts which contain the resin and any other ether-soluble material, and wash twice or until the ether layer is perfectly clear and the line between the ether and the water is sharp and distinct, with 100cc. portions of distilled water to remove salts and foreign matter. Should any glue, which may be extracted from the paper, interfere by emulsifying with the ether, it may be readily removed by adding a strong solution of sodium chloride to the combined ether extracts. Shake thoroughly and draw off the aqueous solution repeating if necessary before washing with distilled water. Transfer the alcoholic or the ether extract to a weighed evaporating dish, evaporate to dryness, dry the residue exactly 1 hour at 100 degrees C., and weigh to an accuracy of 0.1 milligram. Not less than two determinations shall be made, and the average of the results computed. The percentage results of duplicate determinations of resin should agree within 0.2 per cent.

IV. REPORT:

The resin content shall be expressed as a percentage of the air-dry paper, to the nearest 0.1 per cent.

Reference—Quantitative Determination of Rosin in Paper, C. F. Sammet, Ind. & Eng. Chem., Vol. V, p. 732, Sept., 1913.

WEIGHTS, VOLUMES, ETC., OF LIQUID PULP STOCK CARRYING VARIOUS PERCENTAGES OF AIR DRY STOCK*

THIS TABLE SHOULD BE USEFUL IN CALCULATING WHITE WATER LOSSES, PIPE LINE SIZES, PUMP CAPACITIES, ETC.

% of Lb. Dry Stock in 100 Lbs. Liquid	Pounds Dry Stock in One Cu. Ft. Liquid	No. of Cu. Ft. Containing 1 Lb. Stock	Pounds Dry Stock Per 1,000 Gallons	No. of Gal. Containing One Pound Stock	Cu. Ft. Liquid per Min. per Ton Dry Stock per 24 Hours	Gal. Liquid per Min. per Ton Dry Stock per 24 Hours	Lb. Liquid per Min. per Ton Dry Stock per 24 Hours	Lb. Water per Pound of Stock	Gal. Water per Pound of Stock	Gal. Water per Ton Stock
.012	...	...	1.	1000.	...	1388.89				
.024	...	...	2.	500.	...	694.44				
.036	...	...	3.	333.33	...	462.95				
.048	...	...	4.	250.	...	347.22				
.060	...	...	5.	200.	...	277.78				
.072	...	...	6.	166.67	...	231.48				
.084	...	...	7.	142.86	...	198.41				
.096	...	...	8.	125.	...	173.61				
.10	...	...	8.33	120.	...	166.67				
.108	...	...	9.	111.11	...	154.32				
.12	...	...	10.	100.	...	138.89				
.132	...	...	11.	90.91	...	126.26				
144	...	...	12.	83.33	...	115.74				
15	...	...	12.50	80.	...	111.11				
.156	...	...	13.	76.92	...	106.83				
.168	...	...	14.	71.43	...	99.20				
.180	...	...	15.	66.67	...	92.58				
.192	...	...	16.	62.50	...	86.80				
.20	...	...	16.67	60.	...	83.33				
.204	...	...	17.	58.82	...	81.69				
.216	...	...	18.	55.55	...	77.15				
.228	...	...	19.	52.63	...	73.09				
.24	...	...	20.	50	...	69.44				
.25	.1662	6.40	20.83	47.87	8.88	66.49	555.55	399.00	47.75	95,511
.30	.1875	5.33	25.	39.90	7.41	55.41	462.96	332.33	39.78	79,533
.35	.3187	4.57	29.	34.20	6.35	47.50	396.83	284.71	34.08	68,154
.40	.250	4.00	33.	29.92	5.55	41.56	347.22	249.00	29.80	59,605
.45	.2812	3.66	38.	27.43	4.94	36.94	308.64	221.22	26.48	52,955
.50	.3125	3.20	42.	23.94	4.44	33.25	277.77	199.00	23.82	47,636
.55	.3437	2.91	46.	21.76	4.04	30.22	252.52	180.82	21.64	43,284
.60	.375	2.66	50.	19.94	3.70	27.71	231.48	165.66	19.82	39,656
.65	.4062	2.46	54.	18.41	3.42	25.57	213.68	152.85	18.29	36,569
.70	.4375	2.28	58	17.10	3.17	23.75	198.42	141.86	16.98	33,957
.75	.4687	2.13	63.	15.96	2.96	22.16	185.18	132.33	15.84	31,678
.80	.50	2.00	67.	14.96	2.78	20.78	173.61	124.00	14.84	29,683
.85	.5312	1.88	71.	14.06	2.61	19.56	163.40	116.65	13.96	27,922
.90	.5624	1.83	75.	13.71	2.47	18.47	154.32	110.11	13.18	26,358
.93	.5937	1.68	79.	12.61	2.34	17.50	146.19	104.26	12.48	24,958
1.00	.625	1.60	83.33	11.97	2.22	16.62	138.88	99.00	11.85	23,698
1.25	.7812	1.28	104.	9.57	1.78	13.30	111.11	79.00	9.45	18,911
1.50	.9375	1.07	125.	7.98	1.48	11.08	92.59	65.66	7.86	15,719
1.75	1.0937	.91	146.	6.84	1.27	9.50	79.37	56.14	6.72	13,439
2.00	1.250	.80	167.	5.97	1.11	8.31	69.44	49.00	5.86	11.729
2.25	1.4062	.73	188.	5.49	.99	7.39	61.73	43.44	5.20	10,399
2.50	1.5625	.64	209.	4.79	.89	6.65	55.55	39.00	4.67	9,335
2.75	1.7187	.58	230.	4.35	.81	6.04	50.50	35.36	4.23	8,465
3.00	1.8750	.53	251.	3.99	.74	5.54	46.29	32.33	3.87	7,740
3.50	2.1875	.46	292.	3.42	.63	4.75	39.68	27.57	3.30	6,600
4.00	2.50	.40	334.	2.99	.55	4.15	34.72	24.00	2.87	5,745
4.50	2.8125	.36	376.	2.74	.49	3.69	30.86	21.22	2.54	5,080
5.00	3.125	.32	418.	2.39	.44	3.32				
5.50	3.4375	.29	459.	2.18	.40	3.02	27.77	19.00	2.27	4,536
6.00	3.75	.27	501.	1.99	.37	2.77	25.25	17.18	2.06	4,113
6.00	3.75	.27	501.	1.99	.37	2.77	23.15	15.66	1.87	3,750

1 U. S. Gallon Equals .231 Cu. In.
1 U. S. Gallon Equals .1337 Cu. Ft.
1 U. S. Gallon Equals 8.333 Pounds.
1 Cubic Foot Equals 7.481 U. S. Gallons.

Average Consistency—

In sliver screens	½%
Screened groundwood	½%
Deckered stock	5%
Wet machine stock	½%
Beater stock	3 to 5%
P. M. flowbox	½%
Leaving wire	14%
Leaving third press	28%
Finished paper	93%
Lap stock	30%
Hydraulic pressed stock	55 to 60%

*From "Making Paper" (Crown Williamette Paper Co.).

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Paper Making Industry

Clarence J. West, Chairman

Cellulose

Small Scale Laboratory Tests on the Production of Pulverulent Cellulose, Chlorinated Cellulose and Cellulose Acetate. C. de Neyman. Chimie et indus. 15, 349-352 (Mar. 1926). Powdered cellulose can be obtained by the action of sulphuric acid in aqueous solution, the time of reaction and strength of acid required increasing with decrease in temperature. A minimum of 500 parts of liquid to 100 of cellulose is required, and the quantity of acid solution used above this minimum is without effect. Optimum results are obtained with 5 to 7° Bé. acid at 100° C. for about 2 to 2.5 hr. The time can be reduced by 20 to 30% (according to the temperature of the reaction and the intensity of beating) by proper mechanical action, and the cellulose can be thus reduced to a powder passing through a 200-mesh sieve. Hydrochloric acid gives practically the same results as sulphuric acid. Other acids or acid salts can be used in certain cases; but when ferric chloride is used it imparts a dark color which cannot be completely removed, even by prolonged washing. Different kinds of pulp possess different reactivities, esparto being particularly easily hydrolyzed. Complete chlorination of cellulose with chlorine gas hydrolyzes the cellulose and also gives an unstable chlorine-absorption compound which can very readily be esterified. In the acetylation of the chlorinated hydrocellulose the action of acetic anhydride alone is too drastic and partially burns the cellulose, so that glacial acetic acid must be added as solvent and diluent. The minimum amounts of reagents for 100 parts of chlorinated powdered cellulose at 40 to 45° C. are 150 parts of acetic anhydride and 150 parts of glacial acetic acid. Attempts to treat the hydrocellulose with other gases than chlorine (hydrochloric acid, nitrogen peroxide, nitric acid, carbon dioxide, iodine vapors) were unsuccessful. The acetic acid can be replaced by a neutral liquid (*e.g.*, gasoline or kerosene), but the acetic anhydride must be increased to 200 parts, and the diluent to 700 parts per 100 parts of cellulose; owing to the increase in volume the mixture must be heated to keep the temperature at 40 to 45° C. during the reaction. The acetate obtained from chloro-hydrocellulose gives films with good transparency but lacking in strength. Chlorination of cotton for 2 to 3 hr. at 40 to 45° C., or for 6 to 12 (or even up to 18) hr. at room temperature, causes but little or no hydrolysis of the cellulose. The resultant chloro-cellulose can be acetylated at not over 45° C. with the following minimum proportions of reagents (per 100 parts of cotton): sulphuric acid 5 to 7 parts, acetic acid 250 parts, acetic anhydride 250 parts, as compared with the usual proportions which are: sulphuric acid 20, acetic acid 400, acetic anhydride 400. Acetylation tests carried out on chemical pulp and on white rag pulps gave similar results to those obtained with partially hydrolyzed cotton.—A.P.—C.

Cellulose, Hydrocellulose, Oxycellulose. Papeterie 48, 10-17 (Jan. 10, 1926). Brief outline of their constitution, bringing out the relationship between them.—A.P.—C.

Polysaccharides IV. Contribution to the Knowledge of Hydro and Oxycellulose. P. Karrer and T. Lieser. Cellulosechemie 7, 1-6 (Feb. 7, 1926). A clear, viscous mass results when cotton is treated with 84% phosphoric acid and the mixture warmed to 35° C. On dilution with water a precipitate of hydrocellulose is formed, which is completely soluble in 10% hydroxide solution and gives a copper number (Schwalbe method) of less than 3. The hydrocelluloses of Knoevenagel and Hess are also soluble in sodium hydroxide but possess higher copper numbers. When the hydrocellulose is methylated in alkaline solution, a methyl cellulose containing 43% methoxyl is obtained. The alkali solubility of hydrocellulose is not due to the presence of carboxyl or acid groups, which are present in oxycellulose, but probably to the peptization or formation of a sodium hydroxide complex. Numerous experiments were made with the cellulose xanthogenates. Viscose solutions on dialysis became colorless and alkali-free. In pure xanthogenate solutions the relations of cellulose to sulphur to sodium are as the ratio $2\ C_6H_{10}O_5 : 2 : 2$. The action of dimethyl sulphate on dialyzed cellulose xanthogenate solutions yielded the methyl ester of cellulose xanthogenic acid. These compounds are analogous to the xanthogenate of reserve cellulose (lichen).—J.L.P.

Nature of the Structure of Cellulose and Its Significance in Chemical Transformations. R. O. Herzog. J. Phy. Chem. 30, 457-469 (1926). The results of Roentgen spectrographic investigations of cellulose are given and observed values compared with those calculated from the quadratic equation for rhombic symmetry, assuming the unit call to consist of four $C_6H_{10}O_5$ groups. Rhombic symmetry and the adopted size of the unit cell are in better agreement with the experimental data than any other assumption. The quadratic equation for mercerized cellulose is given. The dimensions of crystallites of neutral cellulose have been determined. The behavior of bast fibers in both the magnetic and the electric field runs parallel to the results of optical measurements and X-ray investigations. X-ray investigations of cellulose nitrate and cellulose acetate indicate that the dimensions of these derivatives differ but little from those of the original untreated cellulose. This fact is a necessary condition for assuming a topochemical reaction. Cellulose fibers obtained by the denitration of cellulose nitrate and from the hydrolysis of cellulose acetate (both prepared from untreated cellulose) give the diagram of the latter. Cellulose regenerated from esters prepared from mercerized cotton gives the diagram of cellulose hydrate. The dimensions of crystallites of nitrated and acetylated hemp cellulose, prepared under such conditions as to maintain fiber structure, are given. The size of particles in colloidal solutions of cellulose nitrate, as determined by the diffusion method, corresponds exactly to the dimensions of crystallites computed from the X-ray diagram. The size of particles of cellulose of various origins and pretreatment is given.—C. J. W.

Constitution of Cellulose. H. Pringsheim, J. Leibowitz, A. Schreiber, A. Beiser and E. Kasten. Papierfabr. 24, 258 (Apr. 25, 1926). Technical triacetylglucose when heated in fused naphthalene to 240 to 250° C., is converted without material loss into a substance which is more soluble in acetone and chloroform, its solutions when heated in fused naphthalene to 240 to 250° C., is converted without material loss into a substance which is more soluble in acetone and chloroform, its solutions are less viscous, and it possesses the same composition and shows similar optical activity as the original substance. No rearrangement or intramolecular change has occurred; the loosening of the original aggregate has taken place through changes in forces of association. The molecular weight in fused phenol or boiling pyridine was 288, corresponding to $C_6H_7O_5(COCH_3)_3$. Saponification of this cellosan triacetate with methyl alcohol and ammonia produced a substance (over 50% yield) soluble in water, the molecular weight of which was 162, corresponding to a glucose anhydride, $C_6H_{10}O_5$. This cellosan is optically inactive in water, shows a specific rotation of—12° in 2 normal sodium hyroxide solution, and is similar to alkali-soluble hydrate cellulose and cellulose A. By saponifying the cellosan acetate an insoluble product forms which according to R. O. Herzog yields an X-ray diagram similar to hydrated cellulose.—J. L. P.

Scientific Basis of the Viscose Process. E. Heuser and M.

Schuster. CELLULOSECHEMIE 7, 17-55 (Mar. 14, 1926). A comprehensive study of the viscose process, based on a dissertation by the junior author. A sodium cellulose xanthogenate is precipitated from a viscose solution by alcohol, the sodium probably being retained by adsorption. A sodium-free compound is precipitated by acetic acid and saturated sodium chloride solution. Analytical results from the precipitated xanthogenates during the ripening period are in accord with the theories of Gross and Bevan. The C_6 product does not exist, but the formation of the xanthogenate depends on the prior existence of the alkali compound $(C_6H_{10}O_5)_2$. NaOH. Thus, less than one mol of carbon disulphide per 1 $C_6H_{10}O_5$ yields a well defined mono-cellulose xanthogenate or a normal viscose. Di-and tri-xanthogenates do not exist. Dimethyl cellulose does not form a xanthogenate. Cellulose xanthogenate is quantitatively changed by acid into its components (cellulose, carbon disulphide, and sodium hydroxide). Similarly, the combinations of cellulose with lithium, potassium, and rubidium hydroxides and carbon disulphide yield well defined cellulose xanthogenates, the solutions of which are viscoses. The presence of salts in viscose affects its stability. The large cellulose complex is divided into smaller units during the pre-ripening and sulphiding stages. During the ripening period the smaller complexes suffer little change. The decrease in viscosity of freshly prepared viscose solutions is caused by colloid-chemical changes; the subsequent increase is due to the rise in the free salt content during the ripening process. Numerous photomicrographs are shown.—J. L. P.

Absorption. H. Freundlich. Cellulosechemie 7, 57-64 (Apr. 4, 1926). An address concerned with a general discussion of adsorption.—J. L. P.

Spruce Wood. H. Urban. Cellulosechemie 7, 73-78 (May 2, 1926). Willstaetter's method for the preparation of lignin has been modified to the extent that 3 parts (by volume) of hydrochloric acid (spec. grav. 1.18) are mixed with 1 part of phosphoric acid (spec. grav. 1.7). Using this mixture it was found that the product was chlorine-free, filtered rapidly, and eliminated the inconvenience of handling very highly concentrated hydrochloric acid. By methylating the lignin, best carried out at room temperature, a methoxyl content of 24 to 32% is possible after several treatments. The lignin material contains more hydroxyl than methoxyl groups, the former being predominantly aliphatic. Methylated wood containing about 20% methoxyl yields on hydrolysis a methyl lignin containing approximately 24% methoxyl. Wood can be converted into a chloroform-soluble fluid solution in the presence of chlorine, by treatment with a previously chlorinated mixture of glacial acetic acid, acetic anhydride, and zinc chloride. Practically all of the combined chlorine is contained in the lignin portion; the hydroxyl groups in both lignin and cellulose were found to be almost completely acetylated.—J. L. P.

Biochemical and Histological Studies of Lignification. I. The Nature of Lignin: Its Physiological Significance and its Estimation in Timbers. Maneck Merwanji Mehta. Biochem. J. 19, 958-978 (1925). Lignocellulose is neither an ester-like nor an adsorption compound, as shown by the xanthate reaction. From the considerations of the reactive groupings of the constituents of lignocellulose, lignin seems to occur in chemical combination with cellulose and related polysaccharides as an aromatic glucoside. The aromatic constituent just before lignification is not of the nature of hadromal, as shown by its negative reaction with phloroglucinol and its positive reaction with vanillin in concentrated sulphuric acid. Vanillin is the most sensitive reagent for localizing the aromatic substances which are later converted by oxidation into substances of the nature of hadromal, which combine directly with cellulose to give lignocellulose and give positive reactions with phloroglucinol and negative with vanillin.

Lignocellulose is resolved completely into its constituents by heating with 4% sodium hydroxide at 10 atmospheres for 1 hr., without any radical decomposition of the lignin constituent, which can be precipitated by acidifying the alkaline liquid and isolated in the pure condition quantitatively by extraction with alcohol. Lignin occurs in wood in a condition partly extractable by alcohol, but the major part is in combination with polysaccharides which can be resolved by alkali.

A reagent consisting of phosphotungstic and phosphomolybdic acids in phosphoric acid is a most sensitive reagent for estimating colorimetrically minute quantities of lignin, with which it gives a deep blue coloration in the presence of sodium carbonate solution. A study of the distribution of lignin in different parts of Scotch fir by the colorimetric method shows the presence of lignin in young twigs as well as in leaves and buds.

Lignin as isolated from wood is a brown, amorphous, faintly acidic substance with a pleasant aromatic odor, recalling vanillin in some cases, and melting at 170°. It is insoluble in water, soluble in dilute alkalis and alcohol. Its iodine value is 139 and acid value 477. It gives insoluble salts with alkaline earth metals which do not possess a definite composition owing to the tendency to form basic salts. When lignocellulose is resolved by the sodium hydroxide method a residue of pure resistant cellulose (alpha) is obtained which can be estimated accurately.—C. J. W.

Lignin. I. Lignin From Pine Wood. A. Friedrich and J. Diwald. Monatsh. Fuer Chemie 46, 31-46 (1925). The wood meal is freed from resins by extraction with ethyl alcohol and benzene for 7 hr. and from gums by extracting 4 times with 5% sodium hydroxide at room temperature (36 hr. for each extraction). After washing with water, acetic acid and then again with water, the dried wood is mixed with an equal volume of hydrochloric acid (1 part acid of density 1.17 and 1 volume water) and allowed to stand for 48 hr. The moist (acid containing) product is then heated with 10 parts of 96% alcohol for 8 to 10 hr., the extract filtered, concentrated to one-third its volume and precipitated with 10 parts water, giving 8 to 10% of primary lignin, $C_6H_8O_5(OMe)_2$, light cocoa colored powder, which is very hygroscopic and begins to decompose about 90° C. Lignin prepared from wood extracted with warm sodium hydroxide contains one less methoxyl group. Concentrated solutions in organic solvents are deep brown, but water precipitates from these solutions a much lighter powder. The lignin is soluble in sodium hydroxide but insoluble in sodium carbonate; the product obtained by allowing the lignin to stand in warm twice normal sodium hydroxide for 2 hr. contains but 3 methoxyl groups and is soluble in sodium carbonate. After standing several hours in concentrated hydrochloric acid, the lignin gives a product with only 16.5% MeO (the primary lignin contains 21% MeO). Depending upon the mode of action of bromine, reaction products with 4, 5 or 6 atoms of bromine are obtained; all are amorphous, red brown products, decomposing about 100°; the molecule suffers considerable decomposition or change in the reaction. Warming the lignin with 3% hydrogen peroxide on the water bath gives a product approximating $C_6H_8O_5(OMe)_2$, amorphous light yellow powder, which has no reducing power and does not give the color reactions of the primary lignin. Reaction products were also prepared with dimethyl sulphate and benzoyl chloride.—C. J. W.

Contribution to the Knowledge of Lignin from Spruce Wood. P. Klason. Svensk Pappers-Tid. 28, 609-10 (1925). Klason takes exception to some of the findings of Dorée and Hall and corroborates the work of Tilghman regarding the action of sulphurous acid on vegetable fibers.—C. J. W.

Present Status of Lignin Research. C. Kellin. Svensk Kem. Tids. 37, 209-19 (1925). A review to which is appended a bibliography of 138 titles referred to in the text and 52 additional ones subsequent to 1923.—C. J. W.

Alcoholate Digestion of Wood. Bror Holmberg and Sten Runius. Svensk Kem. Tids. 37, 189-197 (1925). Ground fir wood, free from moisture and crude fat, was analyzed for C, H, OMe and pentose before and after digestion with sodium and hydrochloric acid in alcohol. Both absolute and 95% alcohol gave the same results. The evidence indicates that the lignin in wood occurs as an acetylated substance with carbohydrate, the latter as an alcohol and the lignin as a carbonyl component.—C. J. W.

Raw Materials

Recent Progress in the Knowledge of Fibrous Substances. R. O. Herzog. Papierfabr. 24, 137-142 (Mar. 7, 1926). Recent developments concerning the knowledge of fibrous structure are summarized. Fibers which form the structural material in organic nature are characterized by having a common building unit which is chemically slightly reactive. This arrangement in combination with the homogeneous distribution of the structural elements and the mortar uniting them, determines the extraordinary mechanical properties of the fiber. The smallest building unit is the crystallite, the axis of which is often parallel with the fiber axis. A number of parallel crystallite chains form a single fibrilla (primitive fiber), and several parallel fibrillae form a fiber bundle (elementary cell of cellulose) or a membrane layer. The chemical and physical properties of nitrogenous and cellulose fibers are discussed from these standpoints.—J. L. P.

Eucalyptus Paper. Anon. Wochbl. Papierfabr. 57, 183-184 (Feb. 13, 1926). A brief discussion concerning the suitability of eucalyptus wood for paper manufacture. Mention is made of the results of pulping experiments on this wood carried out at the Forest Products Laboratory, Madison.—J. L. P.

Pulp Manufacture From Wood of Inferior Quality. L. Wolkow. Zellstoff U. Papier 6, 75-76 (Feb., 1926). Results of an investigation on the manufacture of pulp from decayed wood show that if the wood is only 50% infected in a transverse section after storage, a normal pulp from a chemical standpoint may be obtained. The use of tree tops as a source of pulp is discussed.—J. L. P.

Poplar in the Italian Paper Industry. J. Micol de Portemont. Papier 29, 417-423 (Apr., 1926). Description of the Verzuolo, Corsico and Poels mills of the "Cartiere Burgo," which make a large tonnage of groundwood from Canada poplar.—A. P.-C.

Production of Paper and Cardboard from Peat. A. Lambrette. Papeterie 47, 809-813 (Sept. 10), 901-905 (Oct. 10), 950-955 (Oct. 25), 990-994 (Nov. 10), 1052-1055 (Nov. 25), 1090-1094 (Dec. 10), 1134-1138 (Dec. 25, 1925). More particulars are given concerning the author's previously published work, more especially as regards differences in treatment necessitated by considerable variations in the properties of peat of different origins. The author considers that some of the results obtained might justify commercial operations, but this has not yet been effected as the processes could hardly be worked successfully under present economic conditions.—A. P.-C.

Preparing and Preserving Bagasse and Similar Materials for Pulp Making. E. C. Lathrop and T. B. Munroe. U. S. Pats. 1,572,539 and 1,572,540, Feb. 9, 1926. *No. 1,572,539.* Bagasse or similar fibrous material is fermented to soften and heat the material and is piled in masses which will retain heat on their interior sufficiently to lessen their moisture contents and effect substantial sterilization. *No. 1,572,540* specifies preserving green bagasse and similar material from injurious fermentation during storage by substantially saturating a mass of the material with moisture and keeping the mass sufficiently wet to maintain a fermentation by lactic and similar bacteria while inhibiting other fermentations until a sufficient proportion of the parenchymatous matter has been destroyed.—A. P.-C.

Use of Bamboo for Pulp and Paper Making. J. G. Mayo. Paper Trade J. 82, No. 13, 34-38 (Apr. 1, 1926). Description of the manufacture of pulp and paper from bamboo at Maracaibo, Venezuela, with a discussion of the merits of this material from technical and economic standpoints.—A. P.-C.

Flax for Seed and Fiber. M. L. Griffin. Pulp & Paper 24, 299-301 (Mar. 18, 1926). The two fundamental steps that must be taken before there can be any possible hope of success in utilizing flax straw are: (1) a dependable supply of tow of a grade which will furnish some profit and incentive to the farmer and bear some transportation costs; (2) it must at the same time possess a conversion value that will encourage development, to put on the market a halfstuff, for either textiles or paper, directly available for these industries. The author recommends devising simple apparatus for the conversion of the straw into a clean and reasonably uniform tow which can be readily transported. At the pulping plant it would be cut up, shredded and dusted, then passed continuously through a kiln drier at relatively low temperature to embrittle the woody, pithy and bark tissues, and thence directly, before the stock could regain its normal moisture, into a special attrition mill where the brittle woody shive would be refined and dislodged, and thence into another screen, specially designed to separate again all dislodged refuse. At this stage the product will be more or less balled or wadded and should be run over a scutching or carding machine, to form into a crude sliver according to textile processing. If it can be formed into a loose rope by some twisting of several of the sliver strands, the stock is treated as in the textile industry; if not, the treatment becomes a rag stock process for paper.—A. P.-C.

West Australian Laboratory Tests with Domestic Plants for Pulp Production. A. Voigt. Zellstoff U. Papier 6, 160-161 (Apr. 1926). Of the various trees in West Australia available for the manufacture of wood pulp, the karri tree (*Eucalyptus divasicolor*) is the most prominent. Using the soda process yields of 39 to 48% of unbleached pulp were obtained. The loss incurred on bleaching amounted to 4 to 7%. Porcupine grass or spinifex is suitable as a raw material for paper.—J. L. P.

Cotton Stalks and Zacaton Grass as Raw Material for Paper Manufacture. Anon. Wochbl. Papierfabr. 57, 341 (Mar. 20, 1926). A discussion from the standpoint of economy.—J. L. P.

Process for the Isolation of Fibers from the Fibrous Portions of Tropical Sap-Containing Plants. F. Krupp Grusonwerk. Ger. pat. 425,808. Papierfabr. 24, 231 (Apr. 11, 1926); Zellstoff U. Papier 6, 210 (May, 1926). The fibrous plant constituents of tropical sap-containing plants are alternately chilled and heated in a suitable manner.—J. L. P.

Paper Pulp from Rice Hulls. R. Morgenier. U. S. pat. 1,570,389, Jan. 19, 1926. Rice hulls are cooked in a 10° Bé. solution of caustic soda for about 2 hr., separated from the solution and beaten to a pulp.—A. P.-C.

Reclaiming Used Paper. G. Hammond. U. S. pat. 1,572,478 Feb. 9, 1926. Paper carrying pigment is heated at a temperature somewhat below 43° C., beaten and treated with caustic alkali during the beating. An alkali acid sulphite, such as sodium bisulphite, is then mixed with the pulp at substantially room temperature and further beaten.—A. P.-C.

Removal of Printers' Ink From Old Papers. E. W. Albrecht. Chem.-Ztg. 50, 33 (1926). The various deinking processes are too expensive for practical application under existing economic conditions. In most instances deinking is not necessary as the old papers are utilized in dark-colored products.—C. J. W.

Removal of Printers' Ink From Old Paper. K. Stephan. Chem. Ztg. 50, 137 (1926). Stephan concurs with Albrecht (preceding abstract) but suggests the use of a bleachable ink to minimize cost and effort in reclamation of old newspapers.—C. J. W.

Removal of Printers' Ink From Old Papers. K. Stephan. Z. Angew. Chem. 39, 269-70 (1926). The process of Berl and Pfannmueller is unsatisfactory and costly. Since it is practically impossible to remove carbon from old papers, use of a printers' ink containing manganese dioxide and organic colors is suggested. Such a color could be readily bleached with sulphurous acid and the paper reclaimed for news print purposes.—C. J. W.

Native Fibers Not Now in Use Which Might Be Used in the Paper Industry. G. Sellergren. Svensk Pappers-Tid. 28, 613 (1925). On the basis of 0.5 mm. minimum to 35 mm. maximum fiber length and a minimum strength of 10 to 12 kg. per mm.^{2}, the following hitherto unused fibers might be used: Class I, minimum strength 20 kg./mm.^{2}, nettle, hops, bean stems and greenwood; Class II, minimum strength 15 kg./mm.^{2}, reeds, timothy grass, canary reed, manna grass, cock's food grass, feather grass and pine needle fibers; Class III, minimum strength 8 to 10 kg./mm.^{2}, beach grass, rushes, spruce and juniper fibers.—C. J. W.

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

Affiliated with

THE AMERICAN PAPER AND PULP ASSOCIATION

Conducted by THOS. J. BURKE, C.A., Sec-Treas

Cost Accounting Reports For Executives*

By Edgar Swick, Worthington Pump & Machinery Corp.,
Cincinnati, Ohio

In discussing tonight the subject of Cost Accounting as an Aid to Management, I do not believe I am going to say anything that most of you do not already know, but I hope to treat the subject in a way that will perhaps lead you to think of some of the various features of the subject in a new light.

How the cost accountant can be an aid to management, outside the usual practice of supplying a statement of the profits or losses, is a question to which I believe, we should all give careful study. No doubt you will agree with me, that as a general rule, management does not ask for very much aid from the accountant, outside of a profit and loss statement, when profits are good; but in these days of high costs and close competition, I believe good profits are not the rule, except in businesses where costs are closely analyzed and studied *and that the functions of the cost accountant are becoming more and more important every day.*

The most important part of the cost accountant's work is in the preparation of reports. In our business we make reports monthly, which I assume is done by most of you. After these reports are made, accurately balanced with the books, and correctly typed, are they closely examined by the management or do they get placed in a file and left there? I have heard a lot about presenting reports with a letter calling attention to specific points and features, but how many times are these merely glanced over and laid aside.

Study Your Executive

The main point I want to bring out is, that after you present your reports and they are received with a mere formal "Thank you," or, as is sometimes the case, just a grunt, do you become discouraged? I would say you should not, but rather you should study your General Manager, President or Board of Directors as the case may be, and find out just how these reports should be made up and presented to attract their attention. It has been my experience, and I believe the experienc of most of you, that the accountant's education and training differs so much from the training of other executives, that it is practically impossible for an accountant to present a report that will interest an Engineer, Sales Manager, or production man, unless he studies the individual to whom he is making the report. The training of the above types of executives leads them to look at the results of the business from an entirely different angle from that of the accountant.

Some Reports Treated as Scraps of Paper

In our business I deal more directly with the Works Manager, but at the same time, I have to prepare our reports along prescribed lines to be sent to our head office at New York. I believe we have one of the best set of reports for our line of business I have ever seen, yet I have known works managers to whom those reports were only a scrap of paper. Why? Because they were designed more or less by the accounting department, and to the Manager they were more or less a jumble of figures. The reports, which are not statistical, must be made in order that a balance sheet can be prepared showing profits and losses, and I believe the accountant should learn what the Manager, the Sales Department, the Engineering, and the Production Department require, and keep his records in such shape, that he can prepare analyses and statements along lines, which will bring out to these executives, features, which they should know and want to know, rather than be just an "Arithmetic Guy", a name given to a cost accountant by one of our Managers. Sometimes I think it is necessary to educate executives to understand the accounting and financial reports. This is rather a difficult diplomatic problem, which requires different treatment in each and every case, and I am not going to attempt to tell how to go about it. I myself have not as yet learned how to be entirely successful along these lines.

Always Be Available

One policy which I adhere to strictly, is to give the management my time whenever requested, whether day or night, even to the exclusion of personal matters at times, as I have always felt that the importance of the accountant is never really conceded in the mind of many executives. Nevertheless, take a business where the accounting it looked after by some member of the firm who is not an accountant, or by some clerk or bookkeeper not a trained accountant, and I believe you will find a concern with whom it is difficult to do business. Collections are slow, statements are incorrect, and usually their profits are small.

Accountant's Work Valuable When Profits Small

When profits are small, or when there are none at all, is the time when the accountant can bring his "red tape" into play and perhaps save the day. This can oftentimes be accomplished in the following manner:—

1—By providing a proper material control.

2—By recording indirect expenses or overhead in such a manner as to be readily analyzed.

3—By keeping such detailed costs as will permit their study with a view to determining whether costs are higher than necessary, and by furnishing comparative information to the production department, with the least possible delay after the completion of the work.

* From N.A.C.A. Bulletin.

4—By providing the sales department with information showing which lines are profitable and which are not and also by furnishing data on which to base prices for new business or new lines.

Costs are also useful at times to the Engineering department as a guide in making up designs of new lines of manufacture, or when enlarging on the lines already manufactured.

Material Control

Consider the question of material control. In our business we carry a complete stock ledger. That is to say, we carry an individual ledger card carrying the quantity on hand and also the value of the material. This ledger is tied in with the general accounts under the perpetual inventory system. No material is given out of stores for any purpose without a proper disbursement ticket being turned over to the storekeeper for the same. This ticket is priced from the value on the ledger card and is then passed through the control accounts as a credit to Stock, and a charge to Work in Process, or Indirect Expense, as the case may be. The value of the disbursement ticket as a waste preventive, I can illustate by an experience I had while located at one of our company's factories for the purpose of restoring a run-down system.

As everyone knows, electric bulbs in most lines of business, are never used for anything other than maintenance and are charged as an expense item. At this plant due to the fact that these bulbs were always purchased for factory lighting, which is an expense, it was considered useless to turn them over to the control of the stores room when purchased in quantities and waste the time of some man to write a disbursement order, give it to the store room to get the lamps and also waste the time of the ledger clerk in making the entries. Therefore, in this plant when the lamps were received, they were delivered direct to the shop electrician and were charged to Indirect Expense immediately.

Upon taking charge of the work at this plant, I insisted that these be put under the storekeeper's control. I met all sorts of objections to this. By taking all of the invoices for these lamps for the previous year I found that we had purchased approximately ten times the quantity of lamps necessary for the plant. I give this one item as an illustration, but there were hundreds of items, which had been handled in the same way. The result of placing all items of supplies under the control of the stockkeeper, when purchased in quantities and of disbursing them from stores as required enabled us to reduce our Indirect Expense approximately one-third and gave us complete control of the quantities purchased.

The control of the quantities purchased is another important item. The human memory is a fickle thing and when memory is depended upon to know what quantities have been used for a certain period, in order to determine future requirements, the wrong quantity is usually ordered. And generally the quantity is too large rather than too small. With a properly kept stock ledger card, we eliminate the guess work.

Some question the difficulty of keeping these ledgers accurate as to quantities on hand. While there is always present some error, I firmly believe that an inventory taken from a properly kept ledger is far more accurate than a so-called "actual count," wherin everybody from the office boy to minor executives is called upon once a year at inventory time to count stock without any preparatory practice whatever. If some of you, who may think such a counter is accurate, will go home and count a couple of hundred beans I think you will make several counts before you arrive at the same quantity twice. I remember seeing counts made, where the counter came upon a large quantity of pieces in a bin. Being somewhat lazy, he marked a quantity on his inventory sheet without counting the pieces, and said "If anyone doesn't believe that is right let his count them himself."

Materials Should Be Checked as Carefully as Cash

The stock ledger is also used by the production department. When an order is received for a complete machine that is not carried in stock, and must be built, it goes first to the engineering department to be designed and a specification or bill of material is issued. This bill of material then passes to the stock department to be checked with the ledgers to determine what materials are on hand, either rough or finished. After this has been noted on the bill of material, it is passed to an order department, where requisitions are issued to the purchasing department for any material necessary to be purchased. Orders are issued to the foundries and shops for the parts to be manufactured, and disbursements are issued for the materials to come from stock. Here we eliminate the troubles had in many organizations where the ordering of parts, etc., is left to the various department heads. In that case, when the final assembly is being made, it is so often discovered that someone has neglected to order some small part, which perhaps requires a week or ten days to get through the shops and holds up the assembly of the machine. Or this often results in a breaking up of the entire routine and production schedule, to rush the piece through in two or three days. This, of course, is always very expensive. This may not apply with equal force to a retail or a wholesale business, but I am sure a proper control of stock is very essential to eliminate wastes and locate petty pilfering etc. We all know, that in many lines of business, if the cashier is short a few pennies, it is a fixed policy that he must find them; whereas valuable stocks of supplies and salable merchandise can be used, lost, or disposed of without any check whatsoever being had. When the annual inventory is taken, there is a write-off to be made of many thousands of dollars, and no one knows just why. Would it not seem rather ridiculous to take an inventory of the cash but once a year? Yet, in either case, we are dealing with dollars or their equivalent.

Stock Should Be Carefully Regulated

For the benefit of our executives and the general purchasing agent, we divide our stock into eighty-one classifications such as finished machines of different types, finished parts, rough castings, purchased parts, different raw materials, supplies, etc. At the end of each month a report is made showing in dollars the quantity on hand, the quantity placed in stock during the month, the amount disbursed during the month, and the balance on hand at the end of the month. From this report the executives can see what the turnover amounts to and can determine whether or not the stock carried is greater than necessary for the amount of business being done. The natural tendency in corporations where the owners do not assume personal control, is to carry a stock too large thereby tying up capital which could have been well used for other purposes.

I know of one corporation which had not such stock control. During the years 1916 and 1917 when metal products were getting difficult to procure, practically every storekeeper—of which there were several, because of the necessity of having a store room in each of the large cities and in five large plants—began to requisition large quantities of materials. These requisitions were passed by the general purchasing agent and the orders placed without any definite knowledge of the normal quantities used. When the bills came in for the bulk of this material, they suddenly found they did not have sufficient funds to make payments. This corporation was making good profits at the time and was very prosperous. In order to pay for these materials, it was necessary to borrow. The borrowings became so great that the banks began to be frightened. At about this time, the man who had been president for more than twenty years resigned and was replaced by a new president. Perhaps this was not the cause of the president's resignation, but I do know that a serious attempt was made thereafter to establish a materials control.

Complete Analysis of Expenses Essential

Consider the question of expenses. Are we recording these in such a way as to allow for complete analysis when necessary? Can we show the manager or the other executives which departments are becoming more and more expensive per productive hour, or other productive unit, or which items of expense in these de-

partments are exceptionally large? Valuable information can be compiled for the management showing expenses per productive hour or productive unit divided between fixed and controllable charges. The fixed charges per unit of production are bound to go up or down in a reverse ratio to the volume of business, but with perfect management the controllable charges per productive unit should always be the same. A chart showing the trend of these charges shows management at a glance whether or not expenses are properly controlled.

Can we give them reports to show these various items each month—types of report which will bring out these points in such a way, that they will not have to spend hours poring over masses of figures? When high points are found, can we give a complete analysis of the bad spots, showing the cause? I believe we can, and when this is done the management will without doubt find a remedy. A very important consideration in this connection is to get this informaton to the management while it is still fresh, and the situation can be remedied before the loss becomes too great. If we do not do this, the trouble is bound to be discovered some time, but usually it is too late to save a disaster.

Cost System Absolutely Necessary for Manufacturers

Referring to the question of keeping costs, all of us do more or less work keeping and compiling costs. It is absolutely necessary in a manufacturing business to compile costs in some form in order to determine profits or losses, and to calculate the value of finished products on hand. Even with so-called "standard costs" some cost compilation must be done, and for these purposes a cost department must be maintained. Since we must have some clerical force to do that which cannot be dispensed with, it seems good policy to make a slight addition to this force and compile some data for the management, such as to show the trend of costs from month to month, to show whether a certain operation costs more to perform this month than it cost last month, or the last time it was performed; and to determine just how to present this information to your management, in order to tell its story most effectively.

It has been my experience with managers of machinery manufacturing plants, that they do not appreciate the amount of work done by the clerical force. How can you expect them to appreciate it, when all they get from the clerical staff may be one or two sheets of paper each month showing the profits or losses?

In our work we compile a cost record showing the complete details of the cost of manufactured parts, from the raw material to the finished part. This includes a record of the machine or machines on which the work is done, the check number of the man who performed each operation, the time required, and the money cost. This cost record is not made for every order, in cases where we run one or two lots of the same part per month, but a sufficient number of these orders is recorded in this way to give a good comparison of costs of orders and to show the trend. When these records show a cost to be out of line with a previous cost the record, which is kept in a loose leaf binder, is laid on the manager's desk—a complete story without any further explanation. He can immediately call on the department heads for an explanation and apply corrective measure where necessary.

Cost Records Valuable for Estimating

These records are also valuable for use when making estimates. It may be that two or three years ago a certain large machine was built. Today the sales department has an inquiry for a duplicate. Since the time when the machine was built, prices of materials and labor may have changed. What shall be our selling price today? The previous cost has no value for this purpose, because no one can determine accurately the percentage of change in the cost due to the many elements in it. From this cost record, however, we can prepare for the estimating department in a very short time, the weights and kinds of material and the hours of labor necessary to build this machine from the raw material to the finished product. To these data we may apply current prices and burden, and so know within very narrow limits what our present day cost should be to build a duplicate.

Summary

To sum up, I should like to emphasize two points.

1—Do not keep or compile a lot of records which are never looked at or are seldom referred to.

2—Study the various executives to whom reports go. Find out exactly what is wanted and in what form. Then, give all the information possible from the records. Be careful, however, not to burden the executive with unnecessary detail.

To Make Paper From Milkweed

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., September 1, 1926.— William J. Herrbold, former resident of Kalamazoo, an employee of the Bryant Paper Company and inventor of an improved method for washing and cooking paper stock, has found a real spot in the world of usefulness for the modest milkweed. In fact no less that 22 practical uses have been developed as result of seven years of laboratory investigation, conducted in his business quarters at Tonawanda, N. Y.

Chief among the milkweed products are paper, surgical dressings, various kinds of fiber for textile and silk industries, a form of Celluliod, glucose, cattle feed, fertilizer and rubber. The paper made from the weed has the advantage of other paper materials in that it is finer and can be made into the best bond as well as the rougher grades. It is finer than flax in quality according to Mr. Herrbold.

The surgical dressing is said to be soft as fleece and will sometime replace the grade of dressing now used. The material is feathery, light, soft as silk and pure white. From another part of the plant Mr. Herrbold has obtained two grades of fiber, one suitable for textile manufacturing, the other for silk. The glucose is edible and obtained from the roots of the plant. The cattle food is like a flax meal.

Mr. Herrbold has patents pending on the machinery required for the manufacture of the products from the milkweed. For years he has been associated with the Economy Pulp Company of Tonawanda and is a member of the Hercules Corporation of Buffalo. He plans to engage actively in the manufacture of all the milk weed products indicated.

National Aniline & Chemical Co. New Dyes

Among the most recent additions to the line of Fast-to-Light Direct Dyes manufactured by the National Aniline and Chemical Company, Inc., are National Solantine Pink 4 BL and National Solantine Blue 2 GL. The former produces shades much bluer than National Solantine Red 8 BLN. and is particularly desirable where delicate tones are required. The latter is intermediate in shade between National Solantine Blue 4GL and National Solantine Blue FF.

National Solantine Pink 4 BL possesses excellent solubility and level dyeing properties, and is recommended for application to cotton and rayon, and for union dyeing, in which animal fibres are practically unstained. Excellent whites are obtained when discharged with hydrosulfite. The paper trade should find this dye of use for the tinting of bonds where special light fastness is required.

National Solantine Blue 2 GL also possesses excellent solubility and good level dyeing properties, and is resistant to the influence of metals, thereby making it well suited for use in all types of dyeing machines. This dye should find favor for the dyeing of cotton and rayon, and for union styles, in which animal fibres are left practically clear. Its excellent dischargeability with hydrosulfite recommends it to the printing trade, while its fastness to light and resistance to acid and alkaline adhesives make it highly desirable for the paper trade.

Principles Underlying A Good Cost System*

By R. J. Burby, C.P.A., California Service Co., Inc., Accountants and Auditors

The books and records of a company deal with the historical and systematic recording of business transactions as they occur. In a like manner the cost records have to do with a historical and systematic record of the items composing the product of a manufacturing concern.

Accuracy of record is a principle relying primarily on the men who are responsible for the written record of facts. It is a self-evident truth that no cost system is better than the men back of it. We hear a lot about the human equation, but let me say that this equation is fundamental in business and a separate equation exists with each responsibility placed.

So a cost system must be constructed by a man who is not only familiar with the complexities of cost accounting, but also with the multitude of manufacturing problems typical of the business. A cost system is, in its last analysis, a means of recording the performance of a group of workers, who are in some way altering either the composition or the arrangement of the material of which the manufactured product is made. Of course, this record is based on facts and values in dollars and cents.

We observe, therefore, that it is necessary to find a proper vehicle to record at one and the same time such distinct components of cost as the different degrees of skill and effort applied by men to the product, the cost of time consumed, the cost of material lost in changing form or composition and the cost of supplies, tools, storage, supervision, hauling, spoilage, etc. A vehicle, whether it be a Ford or a Packard, will eventually arrive but not always at the same time and hardly ever in the same condition. So it is with cost systems. There are a variety of types, models, and styles of cost systems, but as a rule only one will fit a particular case. In the strict sense there is no such thing as a Uniform Cost Accounting System, for while general ideas may apply, they must always be adjusted to meet and fit peculiar conditions.

A great deal of study and thought should be spent in applying the next principle, which is basis of cost or basis of measurement of cost elements. It would be absurd to measure coal in linear feet, but no more absurd than some bases used in present-day cost systems. An incorrect basis of cost produces an incorrect cost valuation. The basis of cost may change several times during the process of manufacture, for the conditions of each operation affect the means of measuring it. In this connection both economy and accuracy must also be considered. In the canning industry it would be uneconomical to figure the cost of the paste, or the cost of the operations of applying one label to a can of pineapples. The cost of setting up a machine, to run one piece of product would under most any circumstances be prohibitive.

Proper departmentalization and division of operations is just as much a requisite of correct cost as having a proper basis. Generally a proper grouping of operations by departments develops a means of reducing the indirect expenses and making the remainder to a large extent direct charges to the department concerned. As many charges as possible should be made at the source, as this increases the accuracy of the charges and facilitates the development of departmental costs.

The principle of getting the information most needed by the executives is fundamental in the building of a good cost system. This information should be kept in mind from the start and all forms and records, all scheduling and routing, and all process planning should be designed and built to produce the required result.

With the above principles in mind, each operation and movement should be scheduled with the idea of spending the least amount of time and money. The smallest amount of capital should be tied up in inventories consistent with the greatest possible turnover of inventories in a given period.

It is a principle of good cost accounting to know and tabulate all that can be discovered about the product. The proper set up of the machine as to feed and speed, the proper tools and means of accomplishment should be recorded. Such knowledge should be registered and not the property of a few skilled mechanics, who may die or be discharged, thus causing not only delay but unnecessary expense. This principle shows conclusively the close relationship which exists between industrial management and cost accounting. A good cost system can be designed only after a careful study of the actual manufacturing processes and methods.

Cost practice should be regulated so as to produce the schedules and reports required and at the time they are required by the executives and men who rely on this knowledge, for their future acts. Such reports are generally made out for departments in a comparative way. They show the scheduled production and the actual production. They show the progress of orders or processes. Other reports are made out on material requirements, showing material used, material on order and material on hand. Other reports deal with lost time, scrap, and idle time. A still more important group, it seems to me, deals with the actual cost variation in comparison with set standards.

This leads to a further and much argued principle that standard costs should be established. One phase of cost accounting not yet applied in the general cost system, has to do with selling expense. At a recent Convention of the National Association of Cost Accountants it was argued that all business costs are either factory or selling costs, there being no such thing as administrative expense. Some contend that the basis of distributing selling expense is on extended values at cost, but it would seem that the principle of selling effort is lost sight of entirely. I believe that selling expense in a factory may be divided into direct and indirect expense, and in this manner each article will be charged with the actual costs required to sell it. It is admitted, that this cost will be heavy in the case of a new product placed on the market for the first time. However, it is misleading and inaccurate, to penalize the staple product with the selling expense of the new article.

An executive use of a cost system, often lost sight of, is its use as a barometer in deciding, whether or not to acquire new equipment or plant. In this connection the effect of increased volume of cost may be observed; comparative costs of different types of machine equipment in operation can be obtained and the operating cost of similar departments, under varying equipment grouping, will determine to some extent the proper direction of expansion.

Very often a plant has more volume than it can take care of but not sufficient volume to warrant any outlay for new buildings and equipment. Under these conditions the executive and industrial engineer can obtain valuable information from an adequate cost system.

In conclusion, I desire to mention the principle of having contented and happy workmen employed in the plant. This brings up the relationship between the personnel department and cost accounting.

In my first remarks, I mentioned the importance of the worker, and in the last analysis I emphasize the fact that satisfied workmen produce more correct records for cost purposes and that they reduce costs through increased interest in their work and greater loyalty to their employer. This results in numerous suggestions from the workmen concerning labor saving and time saving devices in connection with each operation.

Certainly to a very great extent the employees will react to the efforts of the personnel department, and the principles of business psychology in selecting, placing, and promoting men play an important part in cost reduction.

* From N.A.C.A. Bulletin.

Meetings of Paper Mill Superintendents

Final arrangements for the first fall meetings of the American Pulp and Paper Mill Superintendents' Association are rapidly being completed and below are given the time and place of those now arranged:-

WESTERN BOARD AND MICHIGAN DIVISIONS

A joint session will be held on Friday, September 24, at the Post Tavern in Battle Creek, Mich.

A program of interest to all members of these divisions is being prepared by the committee in charge, and will be published in a later edition of this paper.

Further information with regard to this meeting can be obtained from William H. Sievert, secretary-treasurer, Western Board Division, care Michigan Carton Company at Battle Creek, Mich. or from Alfred E. Bryant, secretary-treasurer of Michigan Division care The Bryant Paper Company, Kalamazoo, Mich.

MIAMI VALLEY DIVISION

The first fall meeting of this division will be held on Saturday evening, September 25, at The Manchester Hotel, Middletown, Ohio.

The main topic for discussion at this meeting will be on the subject of White Water, and it is hoped to have an interesting paper and moving picture of a recent installation of a pulp saving machine. Further information will be published in a latter edition of this paper.

The annual election of officers for the ensuing year will also be held at this time. H. W. Server, John MacMurray and Jack Smith are the nominating committee.

NORTHEASTERN DIVISION AND CONNECTICUT VALLEY DIVISION

The program and entertainment features for the joint session of the above divisions which is scheduled to be held on Saturday, October 2, at Lincoln, N. H. is nearing completion, and from information already received it promises to be a big and interesting session for those of the New England territory. Herbert W. Stanley of The Parker-Young Company at Lincoln, N. H., is secretary and will be glad to forward information to any interested person.

NORTHERN NEW YORK DIVISION

This division has selected Saturday, October 9, and The Onondaga Hotel at Syracuse, N. Y., as the time and location for its meetiing.

The New York State College of Forestry is located at Syracuse and this city is very central to many of the mills in Northern New York and should draw a large attendance of superintendents and others who are interested in the educational features of the pulp and paper industry as well as forestry.

Frank A. Johnson of the Diana Paper Company at Harrisville, N. Y. is secretary and William Brydges of the Defiance Paper Company at Niagara Falls, N. Y. is chairman.

NORTHWESTERN DIVISION

Saturday, October 16 and Green Bay, Wis., has been selected by the committee for this meeting. The program and entertainment will be arranged by David B. Davies of the Hoberg Paper and Fibre Company of that city and his co-workers.

Harold A Skinner of the Marathon Paper Mills at Rothschild, Wis. is secretary-treasurer of this division.

SOUTHERN DIVISION

This division has not definitely selected the time of its meeting on account of the absence of the chairman, R. H. Laftman who has been on a trip to foreign cities. It is hoped that the meeting can be held during the month of November and Bogalusa Paper Company at Bogalusa as the place.

SOUTHEASTERN AND THE PENNSYLVANIA-NEW JERSEY DIVISIONS

Owing to the absence on vacations of many of the officers of these divisions, definite information cannot be given as to the time and place these divisions will hold their meetings, as no information has been received at the office of Robert L. Eminger, National secretary.

Inland Paper Box Corp. To Build

INDIANAPOLIS, Ind., September 7, 1926.—Announcement has been made by officials of the Inland Box Corporation of Indianapolis, manufacturers of paper and corrugated paper packing and shipping boxes, of starting construction on its own factory building to double the production capacity. The new building plans contemplate eventually the erection in Indianapolis of a modern paper mill.

At present the corporation is preparing to vacate in a month or so the old body plant of the former Nordyke & Marmon Corporation. The new plant of the corporation, which will give it 125,000 sqaure feet of space, as compared with 60,000 square feet of space now in use, is being erected at West Morris and Dakota streets, on a spur of the Pennsylvania railroad. The site is composed of five acres, which will permit future expansion.

The entrance to the plant will be in West Morris street. The front of the plant will be two stories high and will house executive offices of the corporation. The factory part will be one-story, of fireproof construction, with steel sash and every modern convenience for production. The Morris Street Realty Company, which is controlled by the inland Box Corporation, is building the new factory. H. C. Krannert is president of both and the founder of the box company.

The story of the organization and rise of the corporation is a romance of a new era of industrial progress. Mr. Krannert came to Indianapolis a little more than a year ago after having been manager of the Sefton Manufacturing Corporation of Anderson, Ind., for fourteen years. He formed the Inland Box Corporation with a capital of $200,000 and began operations. He is president and treasurer of the corporation. C. A. Behringer is sceretary and George E. Bomberger is vice-president. The three formerly were associated for a long period in the Sefton plant at Anderson.

The company has a corps of expert designers who work out the problems of shippers and prospective customers. From a force of about 50 experienced men the company has now grown to the point where it employes 250 persons working on a double shift. In the new plant the company will employ more than 500 persons.

The reason the company bought the five-acre tract, Mr. Krannert explained, is with the view of some day establishing its own paper mill in Indianapolis. It will be the type of mill which will manufacture the fiber paper used by the box company from kraft stock of waste paper. With the company doubling its space and production, it is likely the mill will be erected within a few months.

Agents Appointed for Griley-Unkle Products

The Griley-Unkle Engineering Company of Fort Wayne, Ind., has made an arrangement with the Charles Walmsley Company, Ltd., of Bury, England, to exploit the Griley-Unkle equipment in England. The manufacture and sale of all Griley-Unkle products will be vigorously carried on by the Charles Walmsley Company.

Stark, Tjader, & Cia, of Rio Janeiro, have been appointed South American agents and will handle Griley-Unkle products in South America.

Imports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING SEPTEMBER 4, 1926

SUMMARY

Cigarette paper .....48 cs.
Wall paper.....150 rolls, 10 bls., 4 bdls., 6 cs.
Paper hangings .....2 cs.
Paint paper .....4 cs.
News print .....7011 rolls
Printing paper .....200 rolls, 7 bls., 117 cs.
Wrapping paper .....17 cs.
Packing paper .....18 cs.
Filter paper .....40 bls., 10 cs.
Tissue paper .....2 cs.
Onionskin paper .....46 cs.
Filter pulp .....25 cs.
Surface coated paper .....126 cs.
Gold coated paper .....3 cs.
Metal coated paper .....5 cs.
Photo paper .....11 cs.
Basic paper .....54 cs.
Transfer paper .....2 cs.
Decalcomania paper .....12 cs.
Drawing paper .....28 cs.
Writing paper .....58 cs.
Note paper and envelopes .....18 cs.
Cover paper .....3 cs.
Pergamyn paper .....55 cs.
Stencil paper .....8 cs.
Colored paper .....23 cs.
Gelatine paper .....3 cs.
Straw board .....1019 rolls
Miscellaneous paper .....158 cs.

CIGARETTE PAPER

British American Tobacco Co., Adriatic, Liverpool, 5 cs.
Standard Products Corp., Vincent, Havre, 40 cs.
Max Spiegel & Sons, Chicago, Havre, 3 cs.

WALL PAPER

F. J. Emmerich, Andania, Hamburg, 2 bls.
F. J. Emmerich, Westphalia, Hamburg, 1 cs.
C. Grimmer & Son, Westphalia, Hamburg, 8 bls.
Janeway & Carpender, Bremen, Bremen, 150 rolls.
A. C. Dodman, Jr., Inc., Lapland, Antwerp, 1 cs.
W. H. S. Lloyd & Co., Samaria, Liverpool, 4 bdls., 4 cs.

PAPER HANGINGS

Whiting & Patterson Co., Homeric, Southampton, 2 cs.

PAINT PAPER

Henry Glass & Co., France, Havre, 3 cs.
C. Grimmer & Son, France, Havre, 1 cs.

NEWS PRINT

Parsons & Whittemore, Inc., Bremen, Bremen, 776 rolls.
Parsons & Whittemore, Inc., Sulina, Kotka, 1200 rolls.
New York Times, Humberarm, Corner Brook, 3025 rolls.
New York Call, Humberarm, Corner Brook, 89 rolls.
Bank of Montreal, Humberarm, Corner Brook, 1921 rolls.

PRINTING PAPER

B. F. Drakenfeld & Co., Adriatic, Liverpool, 14 cs.
J. P. Heffernan Paper Co., Andania, Hamburg, 7 bls.
A. S. Zabriskie, Bremen, Bremen, 115 rolls.
E. Dietzgen & Co., Westphalia, Hamburg, 14 cs.
Keuffel & Esser, Westphalia, Hamburg, 85 rolls.
C. Steiner, Rotterdam, Rotterdam, 18 cs.
Perkins, Goodwin & Co., Rotterdam, Rotterdam, 31 cs.
E. Dietzgen & Co., Rotterdam, Rotterdam, 30 cs.
Japan Paper Co., Rotterdam, Rotterdam, 10 cs.

WRAPPING PAPER

F. C. Strype, Lapland, Antwerp, 12 cs.
Bendix Paper Co., Westphalia, Hamburg, 5 cs.

PACKING PAPER

Vaucanson Silk Mills, Vincent, Havre, 2 cs.
Schenckers, Inc., Westphalia, Hamburg, 16 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., American Merchant, London, 10 cs.
A. Giese & Son, Chicago, Bordeaux, 40 bls.

ONIONSKIN PAPER

F. C. Strype, Westphalia, Hamburg, 46 cs.

FILTER PULP

F. Bing, Westphalia, Hamburg, 25 cs.

TISSUE PAPER

G. W. Sheldon & Co., Adriatic, Liverpool, 2 cs.

SURFACE COATED PAPER

Whiting & Patterson Co., Andania, Hamburg, 2 cs.
Globe Shipping Co., Andania, Hamburg, 3 cs.
Gevaert Co. of America, Lapland, Antwerp, 99 cs.
P. H. Petry & Co., Westphalia, Hamburg, 2 cs.
Phoenix Shipping Co., Reliance, Hamburg, 20 cs.

GOLD COATED PAPER

Weiss Forwarding Co., Columbus, Bremen, 3 cs.

METAL COATED PAPER

Tamm & Co., Westphalia, Hamburg, 5 cs.

PHOTO-PAPER

Gevaert Co. of America, Lapland, Antwerp, 11 cs.

BASIC PAPER

Globe Shipping Co., Lapland, Antwerp, 54 cs.

TRANSFER PAPER

Manhattan Decalcomania Co., Columbus, Bremen, 2 cs.

DECALCOMANIA PAPER

L. A. Consmiller, Columbus, Bremen, 9 cs.
C. W. Sellers, Reliance, Hamburg, 3 cs.

DRAWING PAPER

Keuffel & Esser, Westphalia, Hamburg, 28 cs.

WRITING PAPER

T. D. Downing & Co., Andania, Hamburg, 1 cs.
W. J. Byrnes, Vincent, Havre, 1 cs.
D. C. Andrews & Co., Vincent, Havre, 1 cs.
Thomas & Pierson, Westphalia, Hamburg, 50 cs.
Guibout freres, France, Havre, 5 cs.

NOTE PAPER AND ENVELOPES

H. Reeve Angel & Co., Inc., American Merchant, London, 18 cs.

COVER PAPER

International Forwarding Co., Reliance, Hamburg, 3 cs.

PERGAMYN PAPER

F. C. Strype, Westphalia, Hamburg, 38 cs.
F. C. Strype, Reliance, Hamburg, 17 cs.

STENCIL PAPER

Arlac Dry Stencil Co., Andania, Hamburg, 8 cs.

COLORED PAPER

Van Oppen & Co., Andania, Hamburg, 1 cs.
Borden Riley Paper Co., Lapland, Antwerp, 16 cs.
Phoenix Shipping Co., Columbus, Bremen, 6 cs.

GELATINE PAPER

Universal Electric Stage Lighting Co., Bremen, Bremen, 3 cs.

STRAW BOARD

Order, Rotterdam, Rotterdam, 76 rolls.
Haas Bros., Rotterdam, Rotterdam, 77 rolls.
Seely Tube & Box Co., Rotterdam, Rotterdam, 30 rolls.
A. Vuyk, Rotterdam, Rotterdam, 562 rolls.
State Bank, Rotterdam, Rotterdam, 274 rolls.

MISCELLANEOUS PAPER

Hermann Paper Co., Andania, Hamburg, 16 cs.
Chase National Bank, Jufuku Maru, Hamburg, 100 cs.
F. C. Strype, Westphalia, Hamburg, 7 cs.
P. J. Schweitzer, France, Havre, 4 cs.
Japan Paper Co., France, Havre, 3 cs.
Tiffany & Co., Homeric, Southampton, 2 cs.
Japan Paper Co., Chicago, Havre, 5 cs.
S. Gilbert, Rotterdam, Rotterdam, 7 cs.
Tamm & Co., Rotterdam, Rotterdam, 14 cs.

RAGS, BAGGINGS, ETC.

Chemical National Bank, Andania, Hamburg, 65 bls. rags.
Chatham & Phoenix National Bank, Carmania, Liverpool, 25 bls. rags.
Amsinck, Sonne & Co., Inc., Carmania, Liverpool, 26 bls. rags.
S. Silberman & Co., Tomalva, Antwerp, 158 bls. rags.
The Stone Bros. Co., Inc., Tomalva, Antwerp, 111 bls. rags.
Hill, Ingraham & Co., Tomalva, Antwerp, 21 bls. rags.
Royal Manfg. Co., Tomalva, Antwerp, 8 bls. rags.
Royal Manfg. Co., Tomalva, Antwerp, 8 bls. thread waste.
A. W. Fenton, Inc., Bremen, Bremen, 404 bls. rags.
Castle & Overton, Inc., Vincent, Havre, 163 bls. rags.
Atlas Waste Manfg. Co., Vincent, Havre, 97 bls. rags.
E. J. Keller Co., Inc., Vincent, Havre, 9 bls. string waste.
The Stone Bros. Co., Inc., Vincent, Havre, 66 bls. bagging.
General Fiber Co., Vincent, Havre, 63 bls. rags.
D. M. Hicks, Inc., Vincent, Havre, 35 bls. rags.
Robert Blank, Vincent, Havre, 47 bls. rags.
Atterbury Bros., Inc., Jufuku Maru, Hamburg, 111 bls. rags.
Equitable Trust Co., Lapland, Antwerp, 306 bls. flax waste.
S. Silberman & Co., American Merchant, London, 102 bls. rags.
Amsinck, Sonne & Co., Inc., Clontarf, Alexandria, 46 bls. bagging.
National Bank of Commerce, Clontarf, Alexandria, 92 bls. rags.
E. J. Keller Co., Inc., Ambridge, Rotterdam, 225 bls. rags.
G. W. Millar & Co., Westphalia, Hamburg, 4 bls. rags.
American Woolstock Corp., Laura C., Palermo, 36 bls. rags.
Brown Bros. & Co., Galtymore, Leith, 83 bls. rags.
M. Snedeker Corp., Galtymore, Belfast, 107 bls. rags.
American National Bank, Cherca, Naples, 47 bls. rags.
C. B. Richard & Co., Rotterdam, Rotterdam, 16 bls. bagging.
Castle & Overton, Inc., Bremen, Bremen, 47 bls. thread waste.

OLD ROPE

Salomon Bros. & Co., Vincent, Havre, 136 bls.
Brown Bros. & Co., Lapland, Antwerp, 77 bls.
Brown Bros. & Co., Laura C., Venice, 29 coils.
Brown Bros. & Co., Rotterdam, Rotterdam, 132 coils.

MANILA ROPE

Ellermans' Wilson Line, Carmania, Liverpool, 44 bls.
New York Cordage Co., Lapland, Antwerp, 105 rolls.
Disbrow Cordage Co., Rotterdam, Rotterdam, 830 coils.

CASEIN

Kalbfleisch Corp., Amer. Legion, Buenos Aires, 500 bags.
A. Hurst & Co., Chicago, Bordeaux, 150 bags.

WOOD PULP

Atterbury Bros., Inc., Andania, Hamburg, 505 bls. sulphite, 75 tons.
Italian Bank, Andania, Hamburg, 168 bls. sulphite, 25 tons.
National City Bank, Andania, Hamburg, 375 bls. wood pulp, 75 tons.
National City Bank, Jufuku Maru, Hamburg, 1417 bls. chemical pulp, 200 tons.
Bulkley, Dunton & Co., Ambridge, Rotterdam, 1080 bls. wood pulp, 220 tons.
Buck, Kiaer & Co., Inc., Westphalia, Halmstad, 800 bls. sulphite, 101 tons.
Irving Bank-Columbia Trust Co., Laura C., Trieste, 1225 bls. wood pulp.
Bulkley, Dunton & Co., Eilbek, ——, 10,465 bls. wood pulp.
Castle & Overton, Inc., S. Ventana, Bremen, 367 bls. wood pulp.

WOOD PULP WADDING

Birn & Wachenheim, Rotterdam, Rotterdam, 25 bls.

WOOD FLOUR

A. Kramer & Co., Inc., Rotterdam, Rotterdam, 500 bags.

(*Continued on page 66*)

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See Page 43 last week's issue
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Imports of Paper and Paper Stock

(*Continued from page 64*)

BOSTON IMPORTS

WEEK ENDING SEPTEMBER 4, 1926

Bulkley, Dunton & Co., Copenhagen, ——, 2550 bls. wood pulp.
Bulkley, Dunton & Co., Sommelsyk, ——, 137 bls. wood pulp.
Bulkley, Dunton & Co., Tortugas, ——, 5775 bls. wood pulp.
Bulkley, Dunton & Co., Westpool, ——, 390 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING SEPTEMBER 4, 1926

Bulkley, Dunton & Co., Brosund, ——, 3450 bls. wood pulp.
Bulkley, Dunton & Co., Hannover, ——, 405 bls. wood pulp.
Bulkley, Dunton & Co., Modig, ——, 2100 bls. wood pulp.
Castle & Overton, Inc., Westerner, Holland, 2198 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING SEPTEMBER 4, 1926

Bulkley, Dunton & Co., Brosund, ——, 2500 bls. wood pulp.
Bulkley, Dunton & Co., Tortugas, ——, 1250 bls. wood pulp.

NEW ORLEANS IMPORTS

WEEK ENDING SEPTEMBER 4, 1926

Castle & Overton, Inc., Nishmaha, Germany, 208 bls. rags.
Castle & Overton, Inc., West Erral, France, 218 bls. rags.
Castle & Overton, Inc., West Erral, France, 110 bls. bagging.

PHILADELPHIA IMPORTS

WEEK ENDING SEPTEMBER 4, 1926

Kaufman & Co., Vincent, Havre, 4 cs. writing paper.
N. Snellenburg, Vincent, Havre, 3 cs. writing paper.
Stephano Bros., Vincent, Havre, 5 cs. cigarette paper.
Philadelphia Girard National Bank, Vincent, Havre, 46 bls. rags.
Castle & Overton, Inc., Vincent, Havre, 325 bls. rags.
The Stone Bros. Co., Inc., Vincent, Havre, 1445 bls. rags.
Robert Blank, Vincent, Havre, 333 bls. rags.
J. M. Hagy Waste Works, Vincent, Havre, 124 bls. rags.
E. J. Keller Co., Inc., Vincent, Havre, 389 bls. rags.
S. Birkenstein & Son, Vincent, Havre, 475 bls. rags.
D. I. Murphy, Vincent, Havre, 82 bls. rags.
Katzenstein & Keene, Inc., Vincent, Havre, 21 bls. rags.
E. Mayer, Vincent, Havre, 49 bls. rags.
MacBlaine & Co., Vincent, Havre, 49 bls. rags.
Salomon Bros. & Co., Vincent, Havre, 389 bls. rags.
S. Silberman & Co., Jufuku Maru, Hamburg, 318 bls. rags.
Robert Blank, Jufuku Maru, Hamburg, 203 bls. rags.
The Stone Bros. Co., Inc., Jufuku Maru, Hamburg, 60 bls. rags.
A. Strouse & Co., Jufuku Maru, Hamburg, 9 bls. rags.
L. Sher & Son, Jufuku Maru, Hamburg, 20 bls. rags.
D. I. Murphy, Clontarf, Alexandria, 58 bls. rags.
E. J. Keller Co., Inc., Ambridge, Rotterdam, 78 bls. rags.
The Stone Bros. Co., Inc., Ambridge, Rotterdam, 311 bls. rags.
D. I. Murphy, Ambridge, Rotterdam, 487 bls. rags.
Walworth & Co., Laura C., Venice, 8 bls. rags.
Union National Bank, Laura C., Venice, 33 bls. rags.
J. Anderson & Co., Laura C., Trieste, 459 bls. wood pulp.
D. I. Murphy, Laura C., Naples, 120 bls. rags.
Philadelphia Girard National Bank, Laura C., Palermo, 262 bls. rags.
W. Schall & Co., Galtymore, Leith, 131 coils old rope.
Brown Bros. & Co., Galtymore, Leith, 55 bls. bagging.
Philadelphia Girard National Bank, Cherca, Genoa, 107 bls. rags.
Bulkley, Dunton & Co., Hamein, ——, 930 bls. wood pulp.
Bulkley, Dunton & Co., Hannover, ——, 540 bls. wood pulp.
Castle & Overton, Inc., West Arrow, Belgium, 207 bls. rags.
Castle & Overton, Inc., Corson, France, 121 bls. rags.
Castle & Overton, Inc., Lorain, Germany, 289 bls. rags.

Paper Mill Employment for July

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 7, 1926.—July employment in the paper, pulp and paper box industries has just been made public by the Bureau of Labor Statistics, Department of Labor.

Reports were received from 204 paper and pulp mills which gave their June employment at 54,959 decreasing in July to 54,401, a decrease of 1 per cent. The payrolls in these mills also decreased from $1,480,484 in June to $1,413,540 in July, a decrease of 4.5 per cent.

The bureau also received replies from 173 paper box factories which gave their employment in June at 18,271, increasing in July to 18, 535, an increase of 1.4 per cent. The payroll in these factories also increased from $403,596 in June to $406,289 in July, an increase of 0.7 per cent.

To Publish History of Papermakers Union

ALBANY, N. Y., September 7, 1926.—After two years of compilation Matthew J. Burns, of this city who is secretary of the International Brotherhood of Papermakers, has completed a history of the Papermakers' union which it is expected will be published soon in book form. The task has been a gigantic one involving a great amount of correspondence with locals throughout the country and research work in digging up old records in various sections. Much of the work has been done by Mr. Burns at his home. The volume when published will be about 500 pages and is a complete history of the papermakers' union from the time of its inception years ago in Holyoke, Mass., up until January 1, 1922 when Mr. Burns became secretary of the organization.

It is the first book of its kind to be published in the history of the union. Before the book, however, can be published by Mr. Burns, permission must be given by the executive board of the organization. The typewritten manuscript has already been submitted by Mr. Burns to various members of the board for their perusal and it is expected that the book will be published in the near future. Mr. Burns is probably as well qualified as any member of the union in compiling such a volume. He began work as a screen boy when twelve years of age in one of the paper mills in Wisconsin. He served at various tasks in pulp and paper mills not only in Wisconsin but in Maine, Minnesota and other states. He became secretary of the union five years ago having joined the union back in 1907 when he was a resident of Cloquet, Minn.

There is a rather interesting little sidelight in connection with the papermakers' union that has been unearthed by Mr. Burns in connection with his work of writing the history of the organization. It appears that the union as it now exists is the outgrowth of a social club that was started years ago in Holyoke, Mass., and the membership in which was limited to the skilled men of that city who were employed in the papermaking industry. As the years passed their problems became more than social in character and the club broadened its activities until eventually the paper makers union was formed.

Constructing New Sulphite Mill at Newberg

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., September 3, 1926.—The first unit of the new paper mill to be constructed at Newberg, Ore., will be under way by October 1, according to Charles K. Spalding, president of the new company, which as previously announced, plans to erect a mill which when completed will cost $1,200,000. This first unit will cost about $600,000 and will be a sulphite plant.

Bristol Co. Opens Office in Denver

The Bristol Company, Waterbury, Conn., manufacturer of recording pressure gauges, thermometers, pyrometers, etc., announce the opening of a branch sales and service office in the U. S. National Bank Building, Denver, Colo. H. T. Weeks is the representative in charge.

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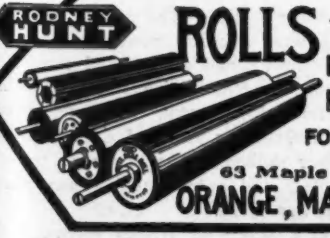

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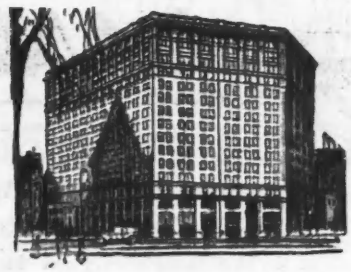

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New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, September 8, 1926.

Optimism prevails in the local paper market now that the holiday season has practically ended. During the past week the demand for the various grades of paper was more active than for some time. Prices are very steady and reports of concessions are infrequent. Inquiries on account of future business are being received in excellent volume and the outlook for the future is decidedly bright.

News print continues in good request and the demand for spot supplies is particularly active. Prices are holding up very well and the increased output produced this year is being absorbed in a satisfactory manner. Between the present time and the close of the year it is confidently predicted in some quarters that there will be a record demand for news print from the publishers.

The paper board market continues to show signs of improvement and prices are much steadier. Fine papers are more active than of late and quotations rule steady. The coarse paper market is also in a sound position and wrapping paper is moving in a satisfactory manner. Prices are unchanged from former levels, in most instances.

Mechanical Pulp

Consumption of round wood is keeping pace with production, according to authoritative reports, and both domestic and imported mechanical pulp is still going forward at a normal rate. The spot market, which had been rather quiet during the past few weeks, is beginning to show signs of increased activity.

Chemical Pulp

There was a revival of activity in the chemical pulp market during the past week and the demand for both the foreign and domestic product was most persistent. It is reported that a number of good contracts for next year's requirements were closed at a satisfactory rate. No further changes in quotations have been recorded, and the schedule is being well maintained.

Old Rope and Bagging

A better feeling is developing in the market for old rope and bagging. Inquiries are becoming more spirited and an improved demand is anticipated in the near future. Supplies of domestic old rope are being absorbed in excellent style, while the request for foreign old rope is improving. There is a steady demand for bagging, and prices are holding up to former levels.

Rags

Dealers in domestic and imported rags report that the lower grades are in greater demand from the paper mills than for sometime. Inquiries for the higher grades are being received in moderate volume and the outlook is more encouraging. Prices of the various grades of rags are holding steadily to previously quoted levels

Waste Paper

While collections are still rather restricted, the waste paper market is considered to be in a sound position and, with the generally improved prices prevailing, conditions are expected to become more stable in the near future. Most of the board mills will probably be in the market shortly to replenish their supplies, and quotations are likely to rule firm for some months, at least.

Twine

Little change has been noticed in the twine market, but now that the summer months have passed by, the situation is expected to improve. Twine prices are still considered to be too low, and many experienced observers of the market are predicting an advance as soon as business shows signs of expansion.

Sales of Kaolin Show Increase

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 7, 1926.—Sales of kaolin, in the United States during 1925 amounted to 367,319 tons, valued at $3,220,719, an increase of 12 per cent in quantity and 10 per cent in value as compared with the previous year according to a statement just made public by the Bureau of Mines, Department of Commerce.

Imports of kaolin constituted 85 per cent of the total imports of clay last year the bureau says. The total clay imports decreased in quality and value and the exports increased in quantity and value last year as compared with 1924. The total imports of clay in 1925 amounted to 436,815 short tons, valued at $3,832,225, a decrease of 2 per cent in quantity and 4 per cent in value. Exports of clay last year amounted to 83,043 tons, valued at $881,566, an increase of 14 per cent in quantity and 20 per cent in value, as compared with 1924.

No Shut-Down for Paper Mill

CORINTH, N. Y., August 30, 1926.—For the first time in a number of years the Hudson River mill of the International Paper Company will not close down for the regular two weeks' vacation as has been the custom for a long time. The mill has been very busy and all ten machines have been operating at top speed. Employees of the mill are not being deprived of vacations, however. Workers in the various departments have been taking their vacations as usual, a few at a time and substitutes have been used to fill the positions and thus enable the plant to maintain operations without diminishing the output.

The local I. P. Mill has experienced during the present summer one of its busiest periods in several years. Shipments of news print leaving the mill by rail recently have been so heavy that the Delaware & Hudson Railroad Company, which handles the shipments, has found it necessary to use special facilities for hauling the heavy cars of paper up the grade from the mill yard to the main track.

Saving in Steam by K. V. P. Co.

KALAMAZOO, Mich., September 1, 1926.—The use of extraction type steam turbines for general electrical power and bleeding steam for paper drying has been found efficient and economical by the Kalamazoo Vegetable Parchment Company. According to reports from the engineering department, the minimum saving per annum has been $12,804.48 per year and a maximum of $70,536.96 per year over other methods. The company's two paper mills, Glendale pulp plant and parchmentizing wax plants are operated through two power plants.

The steam is generated in a battery of Wiches vertical water tube boilers and electricity is generated by 1250 Kilowatt General Electric Turbine generators, rated at 480 volts, 3,600 r.p.m. For drying parchmentized paper, 11,000 pounds of steam per hour at five pounds pressure is extracted from each turbine.

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Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, September 8, 1926.

Now that the vacation period is almost over, observers of the local chemical market are anticipating a gradual expansion of business from now on, to the end of the year. Some manufacturers report that purchasing for autumn requirements has already started, and the present outlook is regarded as very favorable. During the past week the various grades of chemicals used in the paper mills aroused greater interest, and while trading was mostly along routine lines, more inquiries are being received than for some time. Prices are generally well maintained and there are few instances of shading.

BLANC FIXE.—Conditions in the blanc fixe market are fairly satisfactory. Both the pulp and the powder are in moderate demand. Quotations are holding up to schedule and concessions are infrequent. The pulp is still selling at $56 a ton, in bulk, while the powder is quoted at from 4 to 4½ cents a pound, in barrels, at works.

BLEACHING POWDER.—Contract withdrawals of bleaching powder are going forward at a normal rate. Production is being adjusted to consumption and accumulations are only nominal. Prices are holding up very well. Bleaching powder is quoted at from $2 to $2.40 per 100 pounds, in large drums, at works, according to quantity.

CASEIN.—No new developments transpired in the casein market. Demand continues fairly active and prices are steady to firm. Shipments against contract are going forward in good volume. Domestic casein is quoted at from 16½ to 19 cents a pound, and imported casein is offered at from 17½ to 19 cents a pound.

CAUSTIC SODA.—The volume of caustic soda which moved into consumption during the past week was well up to average. Some improvement has been noticed in the spot market and prices are much steadier. Caustic soda is quoted at from $3.10 to $3.15 per 100 pounds, in large drums, at works. Spot car lots are offered at from $3.20 to $3.25 per 100 pounds.

CHINA CLAY.—Prices of both imported and domestic China clay are being well maintained at former levels. The prevailing consumption is normal and contract withdrawals are proceeding at a good pace. Domestic washed clay is selling at from $8 to $9 a ton, at mine, and pulverized at $10 a ton. Foreign china clay is still quoted at from $13 to $22 a ton, in bulk, ship side.

CHLORINE.—The tone of the chlorine market is steady. The demand for this product is constantly growing and prices are holding up very well. Contract shipments of chlorine are moving in excellent volume. Quotations are unchanged at 4 cents a pounds, in tanks, or multi-unit cars, at works, on contract. The spot price is from 4½ cents to 4¾ cents a pound.

ROSIN.—Increased activity was experienced in the rosin market during the past week. Prices are still fluctuating however, and at the time of writing the tendency is upward. At the naval stores, the grades of rosin mostly used in the paper mills are now quoted at from $15.50 to $15.55 per 280 pounds, ex dock, in barrels.

SALT CAKE.—The position of the salt cake market is exceptionally strong. The demand for this product is persistent and, with offerings decidedly scarce, prices are firm. In some quarters an advance is predicted before long. Salt cake is quoted at from $18 to $20 a ton, in bulk, at works.

SODA ASH.—Consumers of soda ash are generally taking full quotas on their contracts and shipments are moving in an excellent manner. Although production has been heavy, surplus stocks are limited and prices are being well maintained. Contract quotations, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.25; in bags, $1.38; and in barrels, $1.63.

STARCH.—The starch market is practically unchanged. Demand is normal and a moderate volume of inquiries are being received for future business. The spot market is fairly active and prices rule steady. Special paper makers' starch is quoted at $3.42 per 100 pounds, in bags, and at $3.59 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Conditions in the sulphate of alumina market remain quiet. Now that the holiday season is practically over, however, a resumption of activities is confidently looked for. Prices are unaltered, and the schedule is generally being maintained. Commercial grades of sulphate of alumina are offered at from $1.40 to $1.45 in bags, at works, in car lots. The iron free is quoted at from $2 to $2.05 per 100 pounds, at works.

SULPHUR.—Demand for sulphur continues along broad lines. Shipments against contract are well up to the average for the season. Prices are holding up very well and reports of concessions are infrequent. Sulphur is still quoted at from $18 to $19 a ton, in bulk, at mine, and at from $21 to $23 a ton, ship side.

TALC.—Manufacturers of talc are maintaining the former schedule of prices and are experiencing a steady demand from the paper mills. While stocks are not excessive, accumulations appear to be sufficient to take care of immediate needs. The quotations on domestic talc ranges from $16 to $18 a ton, at mine. French talc is quoted at from $18 to $22 a ton, ship side.

GROWTH OF PAPER MAKING

(*Continued from page 36*)

raw materials are more numerous, and technical skill and efficient merchandising methods are more essential. The manufacture of paper board has expanded very rapidly in recent years, with the increasing use of cardboard and similar products for shipping containers and in the building industry. The consumption of paper board in this country is approximately equal in volume to that of news print, each of which represents about one-third of the total paper consumption. Book papers and high grade printing papers comprise 15 per cent, and almost all the remainder consists of wrapping paper. Writing and other papers are comparatively unimportant in point of volume.

Question of Future Supply

In course of time, the timber supply of western Canada and our own Pacific Coast must be utilized on a large scale for the manufacture of paper. An additional American source exists in Alaska, which has a timber stand estimated at 84,000,000,000 board feet. Only 52,500,000 feet were cut in 1924. The Alaskan timber is like that of western Canada in that the principal varieties of pulp wood are well represented. Ultimately the forests of Alaska, distant as they are from the important markets, must be drawn upon for the raw materials of the paper industry.

Although the exhaustion of pulp wood resources is not threatened for many years to come, the question of future supply is nevertheless a serious one. Long before the point of ultimate exhaustion is reached, costs of transportation will enforce price advances, the consequences of which will be far-reaching. The cry for reforestation in America is not a new one, but the progress of the movement is slow. In the end, of course, economic factors will make the planting of forests imperative, but meanwhile intelligent foresight may result in sufficiently prompt action to avoid a critical shortage.

Paper Exports From Norway Decrease

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 7, 1926.—Exports of pulp and paper from Norway during July comprised 42,000 tons of mechanical pulp, 22,800 tons of chemical pulp, 11,400 tons of news print and 11,000 tons of other classes of paper according to the Paper Division of the Department of Commerce. With the exception of shipments of chemical pulp, which increased 32 per cent, exports showed a reduction of approximately 20 per cent under the preceding month, says Commercial Attache Sorenson, reporting to the Division.